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Understanding Students' Use of Sources in Research Writing Through an Epistemological Lens

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UNDERSTANDING STUDENTS' USE OF SOURCES IN RESEARCH WRITING THROUGH AN EPISTEMOLOGICAL LENS

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Concerns about the poor quality of students' use of sources in undergraduate research writing have typically led to investigations either of students' information-seeking strategies or of their composing practices. I argue that an either/or approach provides an incomplete picture of students' research writing processes, and that an exploration of the beliefs that shape students' use of sources is needed.

This study explores the beliefs guiding undergraduate students in three disciplinary fields as they worked on a research writing assignment for a course in their majors. It seeks to understand what students, by their own accounts, believe a "good source" is, and how these beliefs shape the rhetorical decision-making in their own writing. Thirteen upper-level, undergraduate students enrolled at a private institution in the Southern region of the U.S. participated in this study. They completed two research questionnaires, took part in an in-depth interview about their strategies for using sources, and submitted a copy of their research papers.

Analyses of the interview transcripts, the questionnaires and the use of sources in the research papers revealed that participants deferred to their sources in their writing, and that they relied on a turning-point source and conferred credibility to make decisions about sources. Participants assumed one of four positions in their use of sources: Organizer, Moderator, Framer, and Commentator. Most significant was that students approached research writing as a structured problem rather than as an ill-structured

problem with no set solution. Thus, their search and writing processes were framed by dualistic/ pre-reflective thinking (Perry, 1970; King & Kitchener, 1994).

This study's results suggest that students' use of sources was grounded in their personal epistemologies of knowledge, which were, in turn, shaped by the instructional and situational contexts. I end with a call for instruction that focuses on how knowledge is constructed in students' majors– expanding students' understanding of the rhetorical functions sources play in academic writing. I also call for further research on the role of personal epistemology in students' conceptualizations of sources, including how affect and instructional context shape students' use of sources.

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DISSERTATION OVERVIEW

Introduction

Thirty years ago, Richard Larson (1982) declared the research paper a "non-form of writing," arguing that it had no distinctive identity as a genre. Furthermore, teaching it as if it were a form of writing did a disservice to students, who then failed to recognize that all writing involved some level of research. The traditional research paper, with its common emphasis on library research, proposed a narrow view of research dismissive of other legitimate research methods, he argued. Even from a discursive point of view, the research paper did not stand the test of form, substance, or process because it shows no distinctive discursive characteristics in any of these areas (Larson, 1982).

Larson's indictment of the research paper was neither the first nor the last call to rethink the assignment. Yet a cursory look at any writing handbook or research textbook suggests that the traditional research paper assignment is alive and well in many undergraduate programs. In fact, at my institution, it has been given a composition course of its own, required of all students, whose sole purpose is to teach first-year students how to conduct research—specifically library research—and how to write a research paper using "scholarly" sources. This course is meant to give students the basics they will need for successful academic writing in subsequent college courses, i.e., to produce researched writing in other classes.

Of all the aspects of research writing that students in my courses struggle with, the use of sources is the one they seem to be most concerned with. Why is it that students perceive writing with sources as so difficult? This question was the focus of this study,

which sought to explore and understand what students, by their own account, believe a good source is, and how these beliefs shape rhetorical decision-making in their own research writing.

Significance of the Topic

The research paper is still a prevalent form of writing in undergraduate education. Evidence of its prevalence in undergraduate curricula can be found in Thaiss and Zawacki's 2006 study of student and faculty views on academic writing. In surveys and interviews, students across disciplines reported working on research writing assignments more frequently than on other types of written assignments. More recently, Melzer (2009) confirmed that research writing is one of two major types of writing that dominates undergraduate education, the second one being short-answer writing. Undergraduate research writing, however, assumes many forms, from the more traditional research paper to the lab report and even the bibliography, to list but a few, and the nature of acceptable evidence differs greatly from assignment to assignment depending on disciplines and courses (Melzer, 2009). Thus, attempts at defining undergraduate research writing are, at best, contextual (Melzer, 2009).

The Research Paper as a Problematic Assignment

If the research writing assignment at times feels like a chameleon, it does have some dominant "colors." For instance, Melzer's (2009) examination of undergraduate writing identified a trend toward research assignments that emphasize exploration and argument over the traditional, thesis-driven prescriptive assignment. This trend ran across disciplines. Furthermore, the majority of undergraduate writing across disciplines and institutions is transactional (83%), while only 3% is expressive and less than .5% poetic

(Melzer, 2009). Nearly two thirds of transactional assignments are informative rather than argumentative (Melzer, 2009). Although there is evidence that students are assigned some exploratory writing, most of the writing students do in college merely requires them to recall or find correct answers, and to write for a teacher audience (Melzer, 2009). The low incidence of poetic and expressive writing overall, especially in light of these genres' demonstrated contributions to writers' development as "knowledge makers," may account for students' lack of engagement with writing assignments, failing to foster writing for meaning-making (Melzer, 2009). What Melzer's study does not reveal is what percentage of undergraduate research writing actually involves literary/ library research, and which assignments are more likely to assume an exploratory bent. In light of arguments that the design of research assignments and instruction impacts students' engagement in the research writing process (Leckie, 1996; Melzer, 2009), an examination of how an exploratory/argumentative framework affects writers' rhetorical practices in source-based writing might yield valuable, practical insights for strengthening pedagogies.

Recent discussions of the research paper have espoused the broader term "research writing," with those seeking to change how research writing is taught in higher education claiming that too much research writing instruction remains antiquated (Davis & Shadle, 2007; Zemliansky & Bishop, 2004). For instance, in their 2004 collection of essays, *Research Writing Revisited*, Zemliansky and Bishop challenge their readers to re-conceptualize their teaching of research writing "as a rhetorical and active process, and not merely as a matter of information-gathering" (p. vii). Recent works such as Davis and Shadle (2007) and Zemlianski and Bishop (2004) highlight the point that the teaching of

research writing is a topic that still deserves much attention, especially as new digital technologies challenge presumptions about the way knowledge is created and authored.

The Source-Use Puzzle

One of the most common complaints about students' research writing centers on their use of sources. First is the issue of the sources they turn to. For instance, the complaint that I hear most frequently from my colleagues concerns students' use of online sites, such as Wikipedia or Google, to find sources. Students, they lament, are not turning to research databases and the more scholarly resources they offer for their academic papers, despite the instruction they receive on identifying and using sources in their writing or what constitutes "good sources" for a given assignment. Underlying this complaint is the assumption that we expect students to turn to "authoritative" sources, and to do so by using specific tools. Next is the issue of students' incorporation of sources into their research writing—often seemingly random, inconsistent, and at times unethical. This complaint, often expressed in relation to plagiarism, has also been the impetus for some recent works on research writing (Davis & Shadle, 2000; Zemliansky & Bishop, 2004).

Typically, considerations of students' problematic use of sources often assume one of three non-mutually-exclusive perspectives: the research perspective, the writing perspective, and the cognitive skills perspective.

The research perspective. The first perspective, often espoused by information literacy proponents, frames students' challenges with sources as a research skills issue, pointing out that students seek the wrong information in the wrong places (Ivanitskaya, Laus, & Casey, 2004; McClure & Clink, 2009). Compounding the issue of finding proper

sources is the advancement in information technology, which gives writers access to potentially millions of sources, both popular and scholarly, with the click of a mouse. Investigations of students' research practices have revealed that a majority of students rely on the Internet for finding sources (McClure & Clink, 2009; Rieh & Hilligoss, 2008). Furthermore, students' search strategies show little understanding that research for academic purposes demands a different type of source. Finally, rather than use library databases, students prioritize tools that they perceive save them time and are easy to use, such as their favorite search engines (McClure & Clink, 2009; Rieh & Hilligoss, 2008).

The writing perspective. The second perspective locates students' problematic use of sources within their writing, noting that undergraduate research writing often resembles a collage of unrelated sources cut and pasted from the Internet, sometimes with little regard for ethical standards of authorship and attribution (Aley, 2004). Examining students' actual use of sources in essays, McClure and Clink (2009) found that even when students did use authoritative sources, it was no guarantee that their writing would be better. Some have argued that students' challenges with sources are a symptom of their detachment towards a research process they approach as one hurdle to clear in order to pass a course, devoid of meaningful critical thinking and showing little interest in inquiry (Aley, 2004; Newman, 2004). Another view posits that the problem should be conceptualized as an assignment issue and addressed by rethinking research writing assignments so they draw on a variety of genres and media, engage students in research that is meaningful to them, and help them understand the rhetorical purposes of referencing (Aley, 2004; Davis & Shadle, 2000; Martin, 2004). For instance, Davis and Shadle (2000) suggest using a "multiwriting" approach that "is not only a set of

pedagogic strategies, but also a series of expressions of an altered conception of inquiry . . . a form of wondering: a way not to end thinking, but to generate and sustain it" (p. 422). For Davis and Shadle (2000, 2007; Shadle & Davis, 2004) and many of the authors featured in Zemliansky and Bishop's (2004) book, modifying the research writing assignment can alleviate students' problematic use of sources.

The cognitive skills perspective. The third perspective looks at students' challenges with the use of sources through the cognitive lens. It focuses on research process pedagogies and how they address the research writer's cognitive skills development, advocating such strategies as the teaching of research reading skills (Goggin & Roen, 2004; Martin, 2004) and critical thinking skills (Newman, 2004). It also suggests specific guidelines for teaching the research process, such as enacting specific requirements on the types and length of sources students can use (Newman, 2004) and rethinking teacher feedback (Melzer, 2004). A related view attributes students' reticence to use sources to their fear of plagiarizing and a belief that research writing is a form of cheating (Aley, 2004). It suggests that research process pedagogies should frame source attribution in positive, rather than punitive, terms (Aley, 2004).

What's Missing

These three perspectives make reasonable claims and present practical solutions for addressing students' problematic use of sources. However, they may not be enough. First, they frame students' struggles with research writing in terms of failures: failure to understand and use research processes, failure to understand the value of reference in academic writing, and failure to demonstrate adequate skills and motivation. If we truly seek to teach "research as empowerment," perhaps we should shift away from the

"student as failure" point of view and embrace a view that seeks to understand the problem from the students' perspective. Second, we should realize that how we conceptualize issues about the teaching of research writing has yielded relatively few new insights, as I was recently reminded when I read an article on the topic in a 1982 issue of *College English*. In this article, titled "The Aims and Process of the Research Process," Schwegler and Shamoon (1982) deplored students' insipid research writing and the inadequacy of pedagogies that simply sought to emphasize information-seeking skills or redefine the research paper assignment. They suggested that these pedagogies, by relying on a cursory review of the research process, did not lend themselves to developing students' awareness that research writing involves critical thinking and inquiry (Schwegler & Shamoon, 1982). What is striking about their point is that it could just as well have been written in a 2012 edition of *College English*. The fact that our complaints about students' research writing, and our strategies for addressing them, are so similar to those of Schwegler and Shamoon (1982) should be of concern to anyone who teaches research writing. It is time researchers embrace a different paradigm for understanding why students continue to face the same struggles with research writing they did three decades ago, a paradigm that recognizes students as part of the solution, not just the source of the failure.

Another problem I see with the three perspectives I described earlier is the absence of any serious discussion about the role that authority plays in research writing and how students deal with matters of authority and authorship. If we want to understand students' use of and struggles with sources, we must tackle the issue of authority. Applied to research writing, authority takes on expanded meaning, becoming at once plural (the

writer's and the experts' authorities), and perplexing (whose truth should I use?). It also raises questions about the impact of one's beliefs and attitudes about the role authority plays in becoming a credible "author" of new meaning in an academic community. Furthermore, the emergence of new digital technologies and concurrent calls for "multiwriting" (Sommers & Saltz, 2004) that would blend genres and media raises questions about the role of authority in the creation of new knowledge through alternative forms of writing. As we encourage students to present the results of their research online, and as we ourselves contribute content online, we are redefining, or at the very least re-shaping, what it means to be an author. This intersection between digital writing and research writing makes a re-examination of authorship and authority ever more pressing.

Research Questions

My goal was to investigate students' use of sources in undergraduate academic research writing. Specifically, I sought to understand what students, by their own accounts, believed a "good source" was, and how these beliefs shaped rhetorical decision-making in their own writing. Starting with the assumption that a piece of research writing is only as good as the research it relies on, my investigation focused not only on how students used sources to compose research papers, but also on how they identified these sources.

Another assumption lay beneath my research questions: Insights valuable for better meeting students' needs could be gained from exploring students' beliefs about information and the use of sources. I was aware that beliefs are subjective constructs that are not always easily measured. Perhaps it is why, as I will discuss in Chapter Two, few studies of undergraduate research writing deal with student beliefs. Yet students' beliefs

about research writing, and especially about what good information is and how it is to be used for creating new meaning, shape how they position themselves as learners, researchers, writers, and creators of new meaning. By examining what they believe as opposed to what they do, we may be able to get a broader picture of what happens for students when they compose research writing. Perhaps then we may more effectively understand how to support them through the challenge of writing with sources. Finally, in asking students about their beliefs rather than simply asking them to justify source choices, I hoped to hear their true perspectives rather than the perspectives they thought I wanted them to have, and to create a researcher/informer framework which legitimized these perspectives.

The following questions framed this project:

1. What strategies do students, by their own accounts, use to find and select sources?
2. What strategies do students, by their own accounts, use to compose with sources?
3. What beliefs guide students' search and composing practices?
4. In what ways is students' use of sources connected to their personal epistemologies?

Organization of the Dissertation

Chapter Two, a literature review, provides a theoretical framework for my study of students' beliefs about good sources. I start with a review of the scholarship on students' information-seeking practices, and then I examine recent scholarship on research-based writing, including research on issues of authority, authorship, and meaning creation. Next, I examine the potential of emerging research on credibility theory (Metzger & Flanagin, 2008) for providing a framework to explore and articulate

what students see as good sources. I also explore how theorization of reference as a speech act (Anson, 2004) informed my investigation of students' intentions in their use of sources in research writing, and what a cognitive lens could bring to the writing and information literacy perspectives.

This study involved 13 undergraduate students who completed two questionnaires and an interview and submitted a research paper they completed in their course. Chapter Three describes where the study was conducted, how these participants were recruited, and how the study's instruments, questionnaires, interviews, and paper analysis were designed. It closes with a brief overview of how the data were analyzed.

Altogether, my investigation of students' conceptualization of a good source yielded 26 two-page questionnaires, 266 single-spaced pages of transcribed interviews, and 130 pages of students' writing. I present the analysis of these data sets in Chapter Four, which is organized around five themes: participants as research writers, participants' information-seeking strategies, participants' processes for evaluating sources, participants' strategies for using sources, and participants' motivations.

Finally, Chapter Five presents a discussion of the findings, positing that participants' beliefs about sources, and the resulting source selection and citation strategies they used, were influenced by personal epistemologies grounded in the situational context of their research assignments. The chapter ends with a review of the implications of this finding for those interested in students' development as researchers and writers, and with a call for further research.

CHAPTER II:

OVERVIEW OF LITERATURE

Introduction

In Chapter One, I suggested that three views inform our understanding of students' use of sources: the research perspective, the writing perspective, and the cognitive skills perspective. In this chapter, to show how the literature is divided into three distinct perspectives, I first consider scholarship in the area of information literacy and its contributions to our understanding of what the research stage is like for students. Writers in this area investigate what students do to find sources and what principles guide their information-seeking behaviors. Next, I turn to scholarship in the field of rhetoric and composition and its examination of the rhetorical strategies guiding students' use of sources in their own writing, particularly the roles of authority and authorship in student citation behaviors. Finally, I examine how scholars of cognitive science identify aspects of using sources that they believe are central to understanding students' challenges with sources and that have not yet been fully addressed by information literacy and writing scholarship.

The organization of this literature review into three areas may appear simplistic because it divides the research writing process into two stages, the research stage and the writing stage—an arbitrary division, as neither stage is truly discrete. I chose this organization to make it easier to differentiate the contributions of the information literacy and the writing perspectives on student practices. By the end of this chapter, however, it should become obvious that I do not believe that we can fully appreciate student practices through one lens only. Instead, I envision a triangular relationship among the research,

writing, and cognitive skills perspectives, whose angles, and the confluence they create, become new sites for exploring student research practices. Thus, the last part of this chapter will explain how I believe my exploration of students' research writing seeks to bring together these perspectives to create a more complete picture of research writers' practices than the ones we currently have.

The Historical Underpinnings of the Research Paper

Before delving into the information literacy, writing, and cognitive perspectives on students' use of sources, it is helpful first to explore what some scholars believe has led to the problems students currently face when doing research writing. In his book *Beyond Note Cards*, Bruce Ballenger (1999) rooted the contemporary problems with the research paper in the history and development of the assignment itself. I agree with him that many of the current claims about students' failures with research writing, including students' lack of inquiry in research writing assignments, their poor use of sources, and, more generally, the poor quality of their researched papers, can be best understood through contextualizing the traditional research paper assignment in its history. Thus, I turn to the past to better understand the conflicted relationships that instructors and students alike seem to have with the research paper assignment.

The emergence of academic writing and the research paper assignment was tied to a shift in the purpose of higher education that dates back to the nineteenth century. According to James Berlin (1984) in *Writing Instruction in Nineteenth Century American Colleges*, the Civil War was a pivotal moment in the history of American higher education, bringing in its aftermath a democratization of the student body and a departure from the mission of preparing a few for lives of public service in favor of preparing a

rising middle class for the workplace. The new higher education system emphasized disciplines, personal development and diversity, and electives rather than a mandatory curriculum (Berlin, 1984). With the associated development of composition courses, it also saw a shift in academic discourse from speaking to writing (Berlin, 1984) and, in the late 1880s, the emergence of research (Ballenger, 1992; Berlin, 1984; Russell, 1991). This advent of what Russell (1991) called “the research ideal” in his history of writing in American universities was heavily influenced by the German educational model and made the creation of new knowledge, grounded in objectivism, a staple of research (Ballenger, 1999; Russell, 1991). "The first impulse for assigning and teaching research writing in the disciplines arose from a desire to engage students in the discovery of knowledge, to involve them in the intellectual life of the disciplines," Russell wrote (1991, p. 100). By doing research, students were able to demonstrate their knowledge in a discipline and their ability to contribute in this discipline (Russell, 1991). Concurrently, research writing emerged as the most desired and soon dominant form of academic writing (Russell, 1991). By the beginning of the 20th century, the research assignment placed emphasis on "original contribution to a disciplinary community in a written form," a narrowing of the audience to one (the professor), and a teacher-apprentice relationship between the student and the professor (Russell, 1991, p. 80). In a statement that could easily apply to research writing today, Russell (1991) concluded: “research-oriented faculty held to the assumption—the goal—that students could and should find interesting questions about which to write, discover an appropriate methodology for investigating them, and report results using the conventions of a discipline" (p. 72).

The historical underpinnings of the research paper are significant for three reasons. First, these underpinnings highlight how some of the research writing practices we use today have remained unchanged, even though the conditions that gave rise to them are no longer relevant. For instance, the reliance on library research for the research paper emerged out of a context in which disciplines were budding, at a time when scholarly, disciplinary print resources and library collections were a novelty, and the focus of the professorate was turning to research (Berlin, 1987; Russell, 1991). But since that time, a plethora of research tools and resources has emerged across disciplines, many of which take place outside of the library or away from a computer. Yet in many cases, today's undergraduate research writing remains immutably grounded in library research, often to the exclusion of other resources.

Second, the history of the research paper sheds some light on current complaints that students' research writing is often boring and void of any sense of inquiry. In *Rhetoric and Reality*, Berlin (1987) explained how discovery was one of the original purposes of research, carrying with it the expectation that the researcher would create new knowledge. Perhaps this was a reasonable expectation in the 1880s, when academic disciplines were nascent. By the beginning of the 20th century, however, this endeavor was made difficult by the amount of disciplinary knowledge and expertise required (Ballenger, 1992, 1999; Berlin, 1987; Russell, 1991). Furthermore, in its beginning, the research assignment was reserved for more advanced students (Russell, 1991). Today, however, all students, including first-year students, are expected to produce original writing in disciplines whose complexities are evidenced by the thousands of sources they have produced.

Finally, the history of the research paper also illuminates reasons for the stiff language that still often characterizes students' research writing. Originally, for the researcher, writing was a tool for reporting rather than a tool for understanding and meaning-making (Berlin, 1987). As such, research writing should be objective and neutral (Ballenger, 1992). James Berlin (1984) recognized this as the influence of current-tradition rhetoric, which he described as grounded in the scientific approach and the use of reason, with little care about audience and a preference for exposition and technical writing. From this perspective, language was a means for describing what one discovered, so that style was the added emphasis of writing instruction (Berlin, 1984). "The purpose is to report, not interpret, what is inductively discovered," he concluded (Berlin, 1984, p.63). Consequently, students were to keep their voices and opinions—and themselves—out of their writing, and instead were instructed to use more "book-sounding" language (Ballenger, 1992).

The belief that research writing should be impersonal persists among students and faculty to this day. For example, in his report on student and faculty beliefs about the purpose and value of the research paper, Ballenger (1999) found that while instructors believed that writers should use their own voices in the research paper, only one third of the students agreed, with more than two thirds of students believing that the research paper had to be objective (Ballenger, 1999). More recently, Thaiss and Zawacki (2006) found that professors across disciplines admitted encouraging "impersonal writing," even when the writing they did in their field did not assume that stance. They also uncovered that both students and faculty believed that characteristics of good academic writing included "the dominance of reason over emotion or sensual perception" and "an imagined

reader who is coolly rational, reading for information, and intending to formulate a reasoned response" (Thaiss & Zawacki, 2006, pp. 5–7).

The history of research writing is also helpful in understanding the conundrum that one may face in trying to define the purpose of the research paper in undergraduate education. In the early 1980s, Schwegler and Shamoon's (1982) research revealed that students and professors held very different views on the purpose of research writing, noting that for students the research paper was "an exercise in information gathering, not an act of discovery; the audience is assumed to be a professor who already knows about the subject and is testing the student's knowledge and information-gathering ability" (p. 819). In contrast, professors saw the research process as inquiry, an open-ended search for new meaning. Both also saw audiences for the research paper quite differently, with students thinking about the professor as the audience, whose job it is to judge how well they do with the research process. Instructors, on the other hand, expected students to write to an educated audience of peers interested in the research paper's topic (Schwegler & Shamoon, 1982). More recently, Thaiss and Zawacki (2006) found evidence that students agree on what makes up good academic writing. However, in many ways, the matter of students' use of sources remains linked to a disconnect between faculty and student views on the purpose of research writing.

The Trouble with Sources: Assumptions and Realities

That the research paper is a site of disconnect for faculty and students is not a new matter. However, it is an issue that sparked my interest in students' conceptualization of sources. Faced with student work that did not match my expectations nor reflect my teaching, I developed a suspicion that students' troubles with source-based writing

stemmed from their research strategies. What I had not fully considered until I engaged in this project was the extent to which my own beliefs about the research process could also impact my students' development as research writers. In "Desperately Seeking Citations: Uncovering Faculty Assumptions About the Undergraduate Research Process," library science professor Leckie (1996) explored the beliefs about the research process that faculty unknowingly weave into their research assignments and their impact on students. She argued that faculty follow what she called an "expert model" for how research should be conducted. This model posits that the researcher is able to survey a field to identify a topic, which he or she is then intrinsically motivated to pursue; has a good knowledge of the nature, purpose, and worth of scholarly publications, adjusting searches to his or her needs; is able to use a variety of information-seeking strategies based on prior knowledge of and experiences in the field; and can identify key scholars in the field and deal with contrasting opinions (Leckie, 1996).

According to Leckie (1996), assignments framed by this model raised expectations students could not meet because their realities contrasted starkly with faculty assumptions. Students, she said, struggle with broad topics and often face information overload when starting searches. Their personal goals for completing an assignment vary widely and are ill-fitted for the scholarly habits of character required to develop authority about a topic (Leckie, 1996). Students are not comfortable with uncertainty, and visiting the library produces anxiety for them. Students also likely have limited understanding of how scholarly sources are put together and for what purpose, and little experience determining their information needs. Instead, their source selection is likely to be guided by whether they can comprehend a source, or even whether the

wording of a title matches their search criteria (Leckie, 1996). Furthermore, students' information-seeking strategies often lead them to research tools they already know, even when these tools are not best suited for their purpose (Leckie, 1996). Finally, she concluded, students, are unprepared cognitively for the judgment skills necessary to evaluate the worth and value of their sources. Thus, assignments framed by the expert model give students an unrealistic idea of the thinking skills required for information-seeking and research processes (Leckie, 1996). Leckie's (1996) discussion sets up a framework for understanding students' information-seeking experiences. It highlights some features of the research process that are especially problematic for students: topic selection and focus development, source identification and selection, and uncertainty. I now turn to empirical research to find out what it has uncovered about students' perspectives on these features and, more generally, the information-seeking stage.

Searching for Sources: The Research Perspective

Not surprisingly, much of the literature on undergraduate research from the information literacy perspective focuses on the research stage. Several studies have examined students' information-seeking strategies to better understand what resources they turn to and what criteria guide their selection and use of sources. On the surface, what researchers have found confirms some of Leckie's (1996) claims. However, they also attest to the complexity of the search process and to the possibility that students may be more intentional information-seekers than we give them credit for. Here, I present those studies whose findings yield insights into students' beliefs about sources and the struggles they face when working with them.

Topic and Focus

For most students, the research paper starts with the selection of a research topic, and perhaps too little is made of this important step in the research process. In fact, selecting a topic and identifying a research focus are two key moments that shape a student's information-seeking practices (Bodi, 2002; Fister, 1992; Kuhlthau, 2004). Until students have selected a topic, they are likely to face great anxiety and not know where to start the search process (Bodi, 2002; Kuhlthau, 2004). Additionally, identifying a focus for their research will determine the quality of the searches that students conduct and the search strategies they adopt (Fister, 1992; Kuhlthau, 2004). In her investigation of 14 undergraduates' research processes, Fister (1992) found that students spent a great deal of their time and effort on finding a research focus; used a variety of strategies, such as talking to their instructors, writing proposals, identifying key sources, and using bibliographies to find and evaluate sources; and changed their search strategies with their focus, such as going back to sources which they had originally discarded (Fister, 1992). She concluded that coming up with a focus is "a major and critical phase in undergraduate research" (Fister, 1992, p. 168).

Studies of students' experiences support the importance of focus and topic in the research process but also illustrate how students negotiate these important moments. For instance, in her 2002 study of first-year students, Seamans, director of instruction for the university libraries at Virginia Tech, found that students tended to choose topics they were already interested in or had knowledge about. When asked about their research focus, students said that they usually started with a broad topic, narrowing it down as they searched or, in some cases, once they started writing (Seamans, 2002). Kennedy,

Cole, and Carter (1999) found that when students did not learn how to move from topic to research focus, or when they did not need to find a focus because they were assigned a thesis, their level of interest or commitment to their research project was diminished.

One area that has received little attention from scholars is the role topic selection may play in how students negotiate authority and voice later on in their writing. For instance, as I compare the importance for students of finding a topic with how little class time we *spend* on finding a topic, I recognize that I do little to help them negotiate that stage successfully. I also realize that as they turn to others for ideas, they may already be constructing some of the boundaries that will delineate their information-seeking strategies later on, for better or for worse. An exploration of what students hear when they are instructed about finding a topic, and how they enact these instructions in their topic selection and search strategy, could provide insight into their information-seeking strategies.

Knowledge Sites

Students turn to three main resources for research: the Internet, people, and the library. As Leckie (1996) stated, they tend to gravitate to resources that will produce the most sources in the shortest amount of time (Leckie, 1996; McClure & Clink, 2009). To that end, they are likely to rely on prior experience, searching places they are familiar with, such as their favorite search engines (Breivik, 2005; McClure & Clink, 2009; Seamans, 2002). Their search strategies may also reflect habits developed during their non-academic uses of the Internet. For instance, student searches often rely on fairly simple keyword searches, with a preference for the single-word search rather than a Boolean search (Seamans, 2002).

Students may also turn to someone in their immediate circle for help. This could be someone who is knowledgeable about their topic, such as a professor or an authority figure in their lives, or peers (Ivanitskaya et al., 2004; Leckie, 1996; Seamans, 2002; Rieh & Hilligoss, 2008), although there is evidence that few actually seek the advice of experts (Seamans, 2002). In their 2008 study of undergraduates' information-seeking behaviors, Rieh and Hilligoss concluded that "young people's strategies for seeking information and deciding whether to use certain information is deeply influenced by others with whom they feel socially close and with whom they share common ground" (p. 65). Finally, although students may use the library to study, they only occasionally seek help from a librarian (Seamans, 2002). In fact, many reported that the library made them anxious (Seamans, 2002). In other cases, students indicated they found library databases too time-consuming (McClure & Clink, 2009) and thus preferred the Internet.

Anxiety and Uncertainty

Another aspect of students' information-seeking strategies that has received attention is the role that anxiety plays in a search. As stated earlier, topic selection, focus identification, and library resources are sources of anxiety for many novice researchers. In most cases, however, we do little to prepare the students for these emotions, thus contributing to their feelings of inadequacy and incompetence when they first learn to research (Bodi, 2002; Kuhlthau, 2004). Bodi (2002) blamed library instruction that frames information-seeking as a linear sequence of discrete steps. Too often, she claimed, instructors failed to convey that research is a recursive process which involves dead ends, trial and error, and the development of background knowledge, leaving students frustrated and unprepared to handle the interpretive nature of research and its "ambiguity

and complexity" (Bodi, 2002, p. 111). What is needed is instruction that recognizes that anxiety and uncertainty are legitimate parts of the research process (Bodi, 2002; Kuhlthau, 2004; Leckie, 1996).

Source Selection

The advent of the Internet and the digitization of sources have impacted students' information-seeking processes. According to Davis (2003) and Seamans (2002), Internet and electronic search tools have produced a decline in the number of print sources (including books) that students used in their papers. Furthermore, while the number of sources in bibliographies increased with access to electronic resources, on average the number of scholarly sources did not go up; the added sources were usually popular sources (Davis, 2003). This, perhaps, has contributed to faculty complaints about students' seeming inability to evaluate sources, which they see in students' reliance on Wikipedia and popular search engines. Grounded in students' practices, their concern is legitimate, but I also believe it is too simplistic.

Studies of students' source selection have revealed that the process of selection is often intentional and governed by contextual factors. First, there is evidence that students prefer popular sources to scholarly sources unless their instructors have set prescriptive source guidelines (Davis, 2003; Rieh & Hilligoss, 2008). Studies have also shown that students know the difference between popular and scholarly sources. According to Rieh and Hilligoss (2008), when students considered source credibility, their judgments showed they understood that peer-reviewed sources were better than popular sources, and that they also knew how to distinguish between sites that were credible and sites that were not. Second, students' accounts of their search processes showed awareness that not

all sources were equal and that some evaluation was required (Seamans, 2002; Rieh & Hilligoss, 2008). However, even when students acknowledged the importance of evaluating sources, credibility and authoritativeness rarely made it to the top of their list of criteria for selecting sources (McClure & Clink, 2009; Rieh & Hilligoss, 2008). In fact, Seamans (2002) found that whether students evaluated their sources depended on how much time they had for research, whether they were planning to use the source, and whether the source supported their beliefs. They generally reported that they dismissed sources that contradicted their beliefs (Seamans, 2002). To conclude, students' source choices are not random, even though they are often governed by conflicting beliefs and practices.

Source Credibility

To make sense of students' conflicting attitudes towards source evaluation, I turn to a core feature of source evaluation: credibility. As tempting as it is to believe that students simply do not care about evaluating sources, it is equally hard to believe that they have no concern for what makes a source believable to them. Rieh and Hilligoss (2008) agree. In fact, their research about college students' information-seeking habits debunked the myth that students did not care much about source credibility. They cautioned that students' silence on issues of credibility may not signal that it did not matter to them, but rather that they were unable to explain its role in their selection strategies (Rieh & Hilligoss, 2008). In their study of students' research habits, they found students addressed issues of credibility in three ways: "(1) starting information seeking at a trusted place, (2) using multiple resources and cross-referencing, and (3) compromising

information credibility for speed and convenience" (Rieh & Hilligoss, 2008, pp. 60-61). They concluded:

> Assessing credibility is not something with which students are explicitly concerned every time they select information resources; rather, their concerns about information credibility are incorporated into their existing information-seeking strategies. In fact, students may not even realize the extent to which they actually assess credibility in the process of information seeking. (Rieh & Hilligoss, 2008, p. 63)

Furthermore, they found a correlation between students' use of credibility as a selection criterion and their research goals. For instance, students with long-term research goals were more likely to show concern for the credibility of their sources. They also noted that credibility judgments were affected by the social environment, with students more likely to consider the credibility of a source if they were finding it for someone else. Finally, they found that students often used a three-step process when making decisions about the credibility of a source: predictive judgment (based on prior experiences), evaluative judgment (based on current knowledge), and verification (with cross-referencing of sources). In some cases, students selected sources because of their easy availability and readability, and did so knowingly (Rieh & Hilligoss, 2008). They concluded: "life experience . . . shapes and influences the credibility criteria that people use" (Rieh & Hilligoss, 2008, p. 59).

Conceptualizing Credibility

Students may consider credibility when selecting sources, but the fact remains that their sources often do not meet our own academic criteria, even after instructional

intervention about the use of sources in academic writing. Perhaps we can blame for this the complex nature of credibility as a concept, a complexity which could be the result of our increasing production of new knowledge, reliance on information, and concerns with truth.

Historically, credibility has been the domain of persuasion, and a rhetorical matter grounded in classical oral traditions. Its most famous and enduring conceptualization dates back to Aristotle's *Rhetoric* and its argument that the orator's ability to persuade his audience lies in the care he takes to "make his own character look right and put his hearers, who are to decide, into the right frame of mind" (*Rhetoric*, II.1, 1378.20). To this day, credibility is equated with ethos, especially in first-year writing books.

In the past 50 years, there have been attempts to expand the conceptualization of credibility. For instance, some have attempted to redefine it by identifying factors in credibility judgments such as expertise, trustworthiness, bias, and character (Delia, 1976; Slater & Rouner, 1996). However, questions have been raised about the usefulness of such characteristics, separate from attempts to understand what processes lead one to determine a source's credibility (Delia, 1976; Slater & Rouner, 1996). In his 1976 essay "A Constructivist Analysis of the Concept of Credibility," Delia (1976) recognized the validity of conceptualizations of credibility that focused on the matter of the speaker's image, but decried their failure to consider the role of the audience and its context in constructing that image. He challenged credibility researchers to move away from what he saw as a static definition of credibility and instead to ask: "In the actual encounter between communicator and receiver, how is it that the receiver translates aspects of the communicator's appearance, behavior, and assertions into judgments concerning his

credibility?" (p. 366). Consequently, Delia (1976) posited that theorizations of credibility should take into account the roles of social and personal constructs in determining a source's ethos, and the rhetorical situation for the judgment. For him, "ethos must be conceived in constructivist terms as an emergent within a transaction between a perceiver and an influence agent in a specific situation" (Delia, 1976, p. 374), a definition he found consistent with what Aristotle intended: that ethos, pathos, and logos be considered as forms of proof rather than as appeals for persuasion. "In the Aristotelian view," he claimed, "ethos is thus best conceived not as kinds of appeals directed to an audience member, but as judgments or effects created by him" (Delia, 1976, p. 374).

Message credibility. Delia's view of credibility emphasizes the source's credibility. More recently, however, some, especially in the fields of advertising and mass media communication, have recognized that looking at credibility through the lens of ethos alone is not enough. For instance, studies of how audiences determine message credibility and which messages are most effective at changing people's beliefs have revealed that prior knowledge and experience, timing, and message quality play important roles in credibility determinations (Slater & Rouner, 1996). In fact, Slater and Rouner (1996) argued that the role of message quality was often underestimated, especially when audiences lacked the prior knowledge or the ability to judge a source's credentials. They stated:

> If credibility is a composite product of evaluation of source credentials and of the message itself, audience evaluation of message content has a great deal more to do with source credibility judgments and subsequent belief change than previously assumed. (Slater & Rouner, 1996, p. 975)

In determining the value of information, audiences engage in what Slater and Rouner (1996) call "message quality evaluation" (p. 976), a judgment based on how well the message is written. They argued that readers often determined the expertise and competence of an author based on the quality of his or her written expression (Slater & Rouner, 1996, p. 984). Thus, the readability of a message affects decisions about the credibility of a source.

The attempts to conceptualize credibility that I have presented so far are relevant to my study of students' use of sources for several reasons. First, today's students have much experience with mass media sources, having been exposed to persuasive messages on television, radio, and the Internet for most of their lives. Thus the persuasive sources they are familiar with are not in the library; they are on their TV and computer screens, on their radios, and in the streets—visible at every moment in their daily lives. While they may not be aware of the media's influence on their lives, it is reasonable to assume that their beliefs about what makes information credible have to some extent been influenced by these sources. I believe that those with an interest in students' academic use of sources may gain some important insights from looking at how students have been socialized to determine information credibility by mass media. Second, the credibility research presented here has affirmed, over time, the necessity of theorizing *processes.* My intent to explore *how* students determine what a good source is, what makes it credible to them, responds to Delia's (1976) call to consider the intersection of personal construct, social construct, and ethos as a dynamic process. So far, little research has focused on the intersection of source selection and personal construct. Finally, Slater and Rouner's (1996) research about message credibility raises interesting questions about

student credibility choices during the information-seeking stage: Do the processes students use for determining source credibility in their daily lives transfer to their academic research work? If so, are there patterns in the processes they use? Is the message as important as Slater and Rouner theorized or do students tend to focus on source credibility? If message quality is important, what markers of quality do they look for? Do they attempt to incorporate these markers in their own writing? My research will explore some of these questions.

Toward a 21st century conceptualization of credibility. In the past decade, explorations of credibility have considered both source and message credibility and their impact on writers. For instance, in their book *Digital Media, Youth and Credibility,* Metzger and Flanagin (2008) define credibility as "the *believability* of a source or message … made up of two primary dimensions: trustworthiness and expertise" (p. 8). They note that disciplines often assume different positions towards credibility, with some—in psychology, for instance—seeking credibility in the source, and others—as in information science—seeking it in the message (Metzger & Flanagin, 2008). Here, Metzger and Flanagin (2008) draw on a constructivist conceptualization of credibility that recognizes the message and the source as its essential constructs.

Metzger and Flanagin (2008) do provide a more complex conceptualization of credibility, however, grounded in process. They propose four types of credibility: "conferred credibility, tabulated authority, reputed credibility, and emergent credibility" (p. 10). Conferred credibility is drawn from a source's endorsement by an official, authoritative entity, be it an organization or another respected authority in one's life. A current challenge in digital media to this type of credibility comes from the listing of

many sponsors and links on websites, whose paid endorsement users may mistake for unbiased opinion. With tabulated authority, credibility judgments are based on others' perceptions (through user ratings and comments, for instance), whose credentials and experience are often unknown. Reputed credibility assigns credibility based on the source's reputation, which may be established through others' account or previous experience. Emergent credibility puts the burden on social networks and is the crux of Web 2.0 applications where users create content online and monitor the information themselves (Metzger & Flanagin, 2008).

For Metzger and Flanagin (2008), credibility involves a third construct besides source and message credibility: media. With digital media, source and media credibility are often blurred. In addition, studies of digital media credibility have too often focused on one type of media (the Web), excluding other equally important forms of media, or privileged individual credibility with little consideration of how various digital networks affect one's credibility judgments (Metzger & Flanagin, 2008). For Flanagin and Metzger (2008), current digital media are reshaping credibility and how it is assessed. Young people, they argue, while often proficient users of digital media, are not necessarily apt, critical consumers of the information they access digitally. This is in part due to the sheer amount of unmonitored information now available online and the consequent impossibility of maintaining a system of "gatekeepers" that would distinguish credible information from non-credible information. They state:

> Digital media thus call into question our conceptions of authority as centralized, impenetrable, and singularly accurate and move information consumers from a model of single authority based on hierarchy to a model of multiple authorities

based on networks of peers. (Flanagin & Metzger, 2008, p. 17)

The work that Metzer and Flanagin (2008) have done with credibility provides specific criteria for understanding students' information-seeking strategies and what leads them to conclude whether a source is "good." Yet it is only a starting point. Reflecting on their research methods, Rieh and Hilligoss (2008) suggest that credibility research expand to include examination of students' information-seeking behaviors and beliefs beyond the digital world (Rieh & Hilligoss, 2008). One way to do so would be to study how students deal with credibility, both their own and others', through their own accounts of what they believe a good source is.

Theorizing the Search Process

There have been attempts at bringing together the different factors that shape students' information-seeking practices— topic selection, identification of a research focus, prior experience, and credibility—to create models of the research process that could be used to better address the developmental needs of research writers. One such attempt, which originated in the field of information science in the 1980s, is Kuhlthau's Information Search Process (ISP) model. Kuhlthau (2004) noted the inadequacies of traditional library services in fostering the intellectual processes central to information-seeking. Too often, she claimed, library services and instruction espoused behavioral approaches, emphasizing the teaching of universal, linear research steps and skills, and thus portraying research as a series of "correct" behaviors that would necessarily lead to the right result. Such approaches made information-gathering the goal of research, failing to account for the emotional and intellectual engagement research necessitates (Kuhlthau, 2004).

For Kuhlthau (2004), the information-seeking process is highly complex and situational. Each search has features unique to the researcher and his or her context. How one thinks and feels about a topic is just as important as what one does when finding and using sources about a topic (Kuhlthau, 2004). Consequently, her ISP model recognizes three major dimensions in information-seeking: the affective, the cognitive, and the physical (Kuhlthau, 2004). It also identifies six stages of research: task initiation, topic selection, prefocus exploration, focus formulation, information collection, and search closure, and the model provides, for each stage, a description of the three dimensions Kuhlthau, 2004). In other words, the three dimensions serve to define what happens at each stage of the research Kuhlthau, 2004). Kuhlthau's (2004) ISP posits that topic selection and focus identification are pivotal points in the research process. It also legitimizes the roles of anxiety and uncertainty in the search process, differentiates concepts of relevance and pertinence in source selection, and recognizes the role of prior experience and knowledge in searches. ISP then provides a heuristic for describing what students experience cognitively and affectively, not just what they do during the information-seeking process (Kuhlthau, 2004).

ISP in a Digital World

Since the Information Search Process (ISP) model was developed in the 1980s, some have wondered about the relevance of Kuhlthau's model to students' experiences in a digital information environment. Recognizing that more research is needed about the role of cognition and affect in students' information-seeking behaviors, Holliday and Li (2004) tested the relevance of Kuhlthau's ISP for Millennial students. They concluded that while some aspects of the ISP still applied to Millennials' search strategies, others did

not because of the digital environment. First, Holliday and Li (2004) found that the Internet shaped students' expectations that all searches be quick and easy, as it is for them with a search engine. Students also reported that they often considered results yielded during initial searches to be sufficient. Few seemed to refine their topics as a result of or during a search. Second, students had trouble explaining how they knew they were done with their searches, with some of them simply stating that they concluded their search after finding the number of sources required by their instructors. Overall, Holliday and Li (2004) concluded that students skip some essential ISP stages, such as focus formulation, information collection, and search closure.

Another finding concerned the availability of sources in electronic formats. According to Holliday and Li (2004), students reported predominantly printing or downloading sources for later use, which meant cutting and pasting them into their own writing, rather than reading sources when they found them. This was problematic because by not doing in-depth reading of their sources, students were unable to develop the knowledge about their topic necessary to refine it, and were thus less likely to be able to find a research focus (Holliday & Li, 2004). These findings are significant because they indicate that the digitalization of information creates new challenges for students, challenges that go beyond learning how to conduct an electronic or Web-based search.

Why Teaching Information Literacy Is Not Enough

What the information literacy perspective reveals about students' information-seeking strategies is that their struggles may stem from the way we conceptualize and deliver research instruction. First, information literacy instruction has remained largely disconnected from writing, taking the form of short library visits and orientations, and

finite research activities emphasizing strategies for using the *right* resources to identify the *right* sources. The problem with this approach, O'Connor et al. (2008) recently argued, is that it is grounded in behaviorist theory, which reduces the teaching of information literacy to a series of discrete steps which, if followed appropriately, will lead to "correct" information. What we should do instead, they claimed, is recognize that "information seeking and use, like learning, are socially-mediated practices that occur through activity and between people in highly specialized context" (O'Connor et al., 2008, pp. 226-227). For O'Connor and her colleagues (2008), a constructivist view of writing and information literacy is critical to developing the kinds of critical thinking and judgment skills necessary for information-seeking and research activities. Research assignments should be real-life problems and emphasize "the process of meaning making or extending understanding rather than producing a formal correct final product" (O'Connor et al., 2008, p. 228). Traditional strategies that emphasize skills and correctness undermine even our best efforts to teach students that research entails critical thinking and judgment about sources' content and relevance to their rhetorical purposes (O'Connor et al., 2008).

The argument advanced by O'Connor and her colleagues is not new. In the early 1980s, Schwegler and Shamoon (1982) argued that students' difficulties with the research paper could be traced to research instruction that failed to consider that the research paper was not about gathering information, but rather about using critical thinking skills and inquiry to solve a problem. The teaching of the research process, they added, must avoid a cursory review of the research process that is not grounded in developing an awareness of the processes of inquiry that shapes research writing. They concluded: "The proper

approach is to view the research paper as a process of thought and expression and to recognize its limits as well as its strengths" (Schwegler & Shamoon, 1982, pp. 823–824). Repeatedly, the information literacy perspective has linked students' struggles with information to instruction that de-contextualizes research, using reductive, checklist-type assignments that do not foster the development of critical thinking skills, reducing the research process to a set of tasks. What Schwegler and Shamoon (1982) were calling for is a more holistic approach that recognizes that writing and research are not discrete activities and that information-seeking and research writing are socially mediated.

Writing from/with Sources

I now turn to a second perspective on students' use of sources: the writing perspective. Despite the high incidence of research writing assignments in the undergraduate experience, relatively few empirical studies examine students' use of sources in research writing, with the exception of studies of plagiarism, the abundance of which possibly echoes recent concerns about unethical societal practices. Excluding these studies, the few empirical studies that have looked at students' research writing practices have generally posed questions that looked at use of sources only indirectly. Nevertheless, considered in concert, studies of research writing provide insights for understanding students' experiences with source-based writing and reexamine faculty assumptions.

Use of sources and Student Engagement

A first study looked at students' engagement with their research writing in part through their use of sources. Attempting to define and measure student engagement in research writing assignments, Kanter (2006) found that students who were able to choose

their own topic and who connected their sources to prior knowledge of a topic also demonstrated a higher level of engagement in their research writing. However, she also discovered that this did not necessarily translate into better papers. In fact, she noted that some of the students who were most engaged in and felt most connected to their research wrote "disembodied" papers, where the predominant voices were those of their sources. One explanation, she theorized, is that teacher practices and expectations greatly affect students' papers. Additionally, students struggled to find their voices as they negotiated presenting information from other sources and their own expectations about what academic writing should look like (Kanter, 2006).

Citing Practices

A colleague of mine, a librarian, recently reported a conversation she heard in the library. One student was bragging to another about being finished writing his research paper. "All I have left to do," he stated, "is find my five sources" (Anne R. Osborne, personal communication, 28 July 2010). This anecdote illustrates what many faculty report encountering: that students do not write *from* sources and that their citation strategies are often random. This has led some researchers to explore writers' motivations for using sources by examining their citation behaviors. For instance, Knight-Davis and Sung (2008) looked at reference pages for students' papers longitudinally and found a correlation between students' citation behaviors and their grade level. Students were more likely to cite sources as they advanced in their education, although the average number of sources in their reference lists did not increase significantly over time. Upper-level students were also more likely to cite scholarly journal articles than lower-level students (Knight-Davis & Sung, 2008). Additionally, Knight-Davis and Sung (2008)

found that students' citations behaviors were positively tied to assignment prescriptions. Students tended to cite more sources in longer papers; they were also more likely to use and cite scholarly sources when they were required to do so than when they were not. Finally, while students cited books most often overall, they also relied heavily on the Internet and electronic sources, a finding that is consistent with research presented earlier (Knight-Davis & Sung, 2008). Knight-Davis and Sung (2008) concluded their study with a call for further examinations of the reasons behind students' source selections.

A related strategy for understanding students' use of sources considers the potential of citations as indicators of writers' rhetorical strategies, although, as Harwood (2009) points out, it can be difficult to determine the intentions behind a writer's citations. For Anson (2004), citations are speech acts through which sources position the writer. For instance, a student writing for an instructor may use sources to show that she has done what she was supposed to do (Anson, 2004), as with the student who "just needs to find [his] five sources." Other functions include broadening (to convey the writer's desire to reframe an idea in a larger context), preparatory (to set a context for the argument that recognizes the needs of the reader), and terministic (to situate a word) (Anson, 2004). As a speech act, citation is an "evidential" act

> complicated by [students'] rhetorical situation, in which they address expert readers (teachers) by feigning a certain degree of expertise as writer-researchers in a context that already defines them as apprentice-novices, all the while trying to inform peers and being admonished to "write to a general academic audience." (Anson, 2004, p. 205)

Anson (2004) noted that novice writers often failed to see that not all sources were equal. Only by looking at use of sources as a speech act can we identify the purposes sources play in research writing and help students understand that the use of sources is more than just an academic exercise. He cautioned, "When pedagogical and teacher-based functions for referencing dominate, they subvert students' learning of strategies for more diverse audience-based research writing and for the strategic, ideational use of sources in their work" (Anson, 2004, p. 21). The question that Anson's argument raises: what do students learn about the roles sources play in research writing?

Enacting the Research Tradition: The Research Handbook

To answer that question, I turn to a place that perhaps remains an important site of transmission for traditional research paper instruction: the research handbook. Because they are often adopted and used college-wide rather than just in English courses, handbooks can shape faculty and student assumptions about how research is conducted and how research papers are constructed. Not surprisingly, handbooks often adopt a prescriptive approach to the research process and describe the use of sources in research writing in a similar fashion. For instance, *The Hodges Harbrace* (Glenn & Gray, 2010) and *A Writer's reference* (Hacker, 2007), two widely used handbooks in American universities, to which I will refer as the *Harbrace* and the *Hacker* in the rest of this chapter, both include units on research writing. These units follow the same structure, starting with an information-seeking strategies section, followed by a section about source methods and a section on ethical use of sources. In this sense, because they are stand-alone, these units convey the perspective that research is separate from other types of writing, rather than showing writing as a different type of evidence. Their organization

also suggests that to successfully complete a research project, one must follow a set of clearly defined tasks—research first, write later, for example.

Source selection. Both handbooks frame academic research assignments in terms of problem-solving. *Hacker* (2007) states, "College research assignments ask you to pose a question worth exploring, to read widely in search of possible answers, to interpret what you read, to draw reasoned conclusions, and to support those conclusions with valid and well-documented evidence" (p. 317). This definition posits that students will respond to a problem and emphasizes the importance of critical thinking skills in the research process, an assumption that is not correct for every research paper. However, much of the content in these handbooks' research units is not about problem-solving skills or thinking skills development. Rather, it presents a set of practical, behavioral search strategies centered around four major information resources: books, articles, Internet sources, and field research (Glenn & Gray, 2010; Hacker, 2007). The order in which these resources are presented suggests a hierarchy of source types which privileges books in *Harbrace* (Glenn & Gray, 2010) and library databases in *Hacker* (2007), leaving the Internet third and field research fourth. Reinforcing this hierarchy, *Hacker* (2007) cautions readers, "Instead of turning immediately to a popular search engine like Google, step back and think about the best way to find the right information for your purpose" (p. 320). Later on, students are told "to resist the temptation to do all your work on the Internet" (Hacker, 2007, p. 322), an interesting idea in an era when libraries are increasingly becoming virtual and necessitate the Internet to access their catalog and databases.

Source type. Three keywords characterize *Harbrace*'s and *Hacker*'s prescriptions for the sources students should use in academic writing: scholarly, primary, and

secondary (Booth et al., 2003; Glenn & Gray, 2010; Hacker, 2007). Specific definitions and illustrations for the last two are provided in both books, and writers are advised to use both primary and secondary sources. The matter of what constitutes a "scholarly source" and why it is preferred is covered with more ambiguity. Both handbooks imply that scholarly sources are preferred, although they do not actually say so. For instance, in its section on articles, *Harbrace* differentiates among scholarly journals, professional magazines, and popular magazines and newspapers by contrasting the expert content of the first to the "combination of news stories that *attempt to be objective* and essays that *reflect the opinions* of editors or guest contributors" (Glenn & Gray, 2010, p. 521) (emphasis mine). Readers are never advised explicitly that newspapers are not legitimate sources, but the negative connotation of the language used to describe them implies that they should not be trusted.

In both *Harbrace* and *Hacker*, four constructs typically define scholarly sources: the author's expertise, the piece's originality, the review process it underwent, and its audience. For example, *Harbrace* (Glenn & Gray, 2010) defines scholarly books as ". . . written by experts to advance knowledge of a certain subject. Most include original research. Before being published, these books are reviewed by scholars in the same field as the author(s)" (p. 516). In *Hacker* (2007), scholarly sources "are written by experts for a knowledgeable audience and usually go into more depth than books and articles written for a general audience" (p. 336). *Hacker* offers this advice:,

To determine if a source is scholarly, look for the following:

- Formal language and presentation
- Authors who are academics or scientists, not journalists

- Footnotes or a bibliography documenting the works cited by the author in the source
- Original research and interpretation (rather than a summary of other people's work)
- Quotations from and analysis of primary sources (in humanities disciplines such as literature, history, and philosophy)
- A description of research methods or a review of related research (in the sciences and social sciences) (Hacker, 2007, p. 336)

What I find interesting about these definitions is that they call on students to make judgments about others' expertise and ideas, judgments that require not only prior background knowledge about the topic, but also advanced critical thinking skills. They also raise the question of what students believe an expert is. As a composition instructor, I have found that first-year students are often unprepared for these types of judgments. Practices aiming to help students differentiate between types of sources should be informed by an understanding of the beliefs that guide the judgments they make about sources, an area which my study explored.

Source evaluation. Nevertheless, definitions like *Hacker*'s may be helpful for students when they are accompanied by clear criteria for evaluating sources so that students can "know it when they see it." *Harbrace* and *Hacker* do propose such criteria, which include issues of credibility, relevance, and timeliness. Both texts treat Web sources as special sources that require additional scrutiny. Both propose lists of questions that students should ask when evaluating sources, and while these lists are helpful, their length—no fewer than 10 questions—may be an impediment for students who make

information-seeking decisions based on how much time they have. Also, the variety of questions in both texts raises the question of how students negotiate different criteria as they move from course to course and use different texts, and of how they create their own heuristics for evaluating sources.

Handbooks, and their treatment of source selection and use of sources, are important tools for students to determine the intrinsic value of some sources over others based on who authored them, who they were authored for, and where they were published, with the Internet still being the least favored source of knowledge. What is missing, though, is a serious discussion of *why* students think some sources are better than others, and what role context plays in their decisions about what constitutes a good source for a particular research project.

Negotiating Authority

In the 1980s, Bartholomae (1984) famously noted that students' ability to negotiate entry into an academic discourse community is dependent upon their ability to develop authority in that discourse, achieved through their understanding of what defines a discourse community and what conventions it follows. His own research led him to identify strategies novice writers use to negotiate entry into academic discourse, such as imitation of academic language and appropriation of authority (Bartholomae, 1984). I believe that his point is very relevant to research writing, especially the kind embodied by the traditional research paper assignment. Applied to research writing, authority takes on expanded meaning, becoming at once plural (the writer's and the experts' authorities), and perplexing (whose truth should I use?).

Authoritative sources. Exploring how students dealt with issues of timeliness, authority, and bias as they identified and used sources in their research writing, McClure and Clink (2009) found that

> students largely understand that their sources should be current but are less agile in thinking through or presenting the authority of their sources in their essays. Students often do not articulate the authority of their sources, such as detailing the appropriate credentials, research methodologies, or even just the names of the sources. Students are perhaps least able to recognize or articulate bias. (p. 129)

Their study yields important insights and raises significant questions on the subject of authority. First, it confirms that even when students use authoritative sources in their writing, their essays are not necessarily better as a result. The problem seems to be that students can list authoritative sources in their bibliographies but still rely heavily on a few non-authoritative sources in their essays. Second, McClure and Clink (2009) debunk the idea that students just do not know or care about what an authoritative source is. In fact, interviews revealed that students believed they understood the concepts of authority in the use of sources, with some students considering credibility in making a decision about the use of a particular source, even though their essays did not always demonstrate this understanding (McClure & Clink, 2009).

Finally, McClure and Clink's (2009) research raises the question of how much agreement exists about what constitutes an authoritative source among faculty and students. In their study, they listed as authoritative sources "journal, newspaper, and magazine articles; books or government documents; personal interviews; and other sources easily identified as authoritative" (McClure & Clink, 2009, p. 121). However,

this definition is so broad that very little, besides some Internet sources, falls out of its purview. Furthermore, its categorization of newspaper and magazine articles as *authoritative* sources is questionable. McClure and Clink (2009) did not expressly discuss how they came to this definition, nor did they share definitions from those writing instructors they interviewed. However, they admitted that "[d]etermining the authority of a source is difficult even for experienced researchers" (McClure & Clink, 2009, p. 122). One can reasonably assume it is equally difficult for students.

Writing from and for credibility. Describing students' struggles with academic writing in their study "The novice as expert: Writing the freshman year," Sommers and Saltz (2004) report that "freshmen build authority not by writing *from* a position of expertise but by writing *into* expertise" (p. 134). Thus, negotiating authority is also negotiating issues of expertise and credibility. McClure and Clink (2009) identified three common strategies through which students established their sources' credibility: the generic mention of a degree or affiliation; the use of the author's name; or the use of both an author's name and credentials. Students used this last method least frequently, leading the authors to suggest that "it is . . . possible that students do not believe they need to discuss authority, that a source's authority is a given based on its availability, selection, or both" (McClure & Clink, 2009, p. 122). It is possible, indeed, just as it is possible to imagine that students' reluctance to deal with the authority of their sources may be shaped by their own enacting of authority in writing. However, their comment might be more effectively rephrased as a question about how students use others' expertise to negotiate their own credibility. I wonder, for instance, whether students might choose not to provide information about an author's expertise to avoid facing the fact that they

themselves do not really feel the authority to speak on a topic. If being an expert means having a doctorate or documented experience in the field, then what does it mean for novice writers who are asked to "pretend" to be experts on topics they had not thought about prior to starting the research? McClure and Clink (2009) admit that not having explored students' own accounts of how they go about establishing the authority of sources they use in their writing was a limitation in their study.

Negotiating authorial agency. How students position themselves as authors is related to the issue of authority and to understanding students' use of sources. In his research on undergraduate students' conceptualization of plagiarism, Bouman (2009) examined the role of authorial agency in students' misuses of sources. He posited that students' ability to develop authorial agency is affected by their rhetorical abilities and by a Western ideology which defines authorship as an individualistic act, the result of one's solitary creation of new meaning. He stated,

> Without a feeling of individual agency—of believing they have the permission, the expectation, and the standing to talk back to their sources in their own individual voices—writers may find themselves parroting the words and ideas of others, opening themselves and their writing to accusations of plagiarism. (Bouman, 2009, p. 39)

Although Bouman (2009) focused on plagiarism, his discussion of authorial agency bears much relevance to students' generally poor integration of sources in their research writing. Bouman implies that how students conceptualize authorship and negotiate individual agency are important constructs in their ability to use sources effectively.

What Bouman (2009) left out is the role of one's conceptualization of knowledge in one's ability to develop the sense of agency required for effective source-based writing. In *Beyond Note Cards*, Ballenger (1999) linked issues of authorship to issues of knowing. He argued that how students negotiate authorship is dependent upon how they see themselves as "knowers" (p. 15) and that the traditional research paper assignment impedes students' development as knowledge makers: "By perpetuating the myth of objectivity and focusing largely on procedural knowledge rather than personal knowledge, traditional pedagogies eliminate the dissonance that challenges our students to reexamine their beliefs" (Ballenger, 1999, p. 58). This absence of dissonance in turn affects their ability to establish agency, to understand their role as creator of knowledge, in particular the importance of involving themselves in their research. For Ballenger (1999), students must be aware of their epistemologies in order to engage in research projects. However, Ballenger did not explore how one's epistemology of knowing impacts one's view of authority and authorship in a systematic way. One starting point for my interest in exploring students' use of sources was the idea that how students conceptualize knowledge shapes the ways they enact authority in research writing as well as the way they set about becoming credible "authors" of new meaning in an academic community. Thus, my research sought to look at students' epistemologies in relation to source selection and use of sources, and to build on Ballenger's claims.

Constructing Meaning

Before moving on to issues of epistemology, however, I return to the idea of the writer as knower. This idea, I believe, raises the following question: How do writers see themselves as knowers, and how do they use sources to create new meaning in their own

research writing? Perhaps a first step in addressing this question is to recognize that knowledge is socially constructed. Meaning is not inherent to a text—a static construct—but rather is the result of interactions between the reader and his or her social context, the text, and the writer (Brent, 1992; Rosenblatt, 1983). Thus, in research writing, meaning is created not only during the composing process, but also during the research stage, through one's reading and interpretation of sources.

In his book *Reading as Rhetorical Invention*, Brent (1992) looked at the role of reading in research writing. He asked, "How does a set of texts that can be held in the hand, texts which proclaim diverse and often contradictory views of the universe, become transformed into a reasonable, consistent set of beliefs in the mind of the reader?" (Brent, 1992, p. 12). This is an important question that points to the difficulties students encounter when they read sources and attempt to compose from them. Brent (1992) argued that the rhetoric of writing, with its focus on persuading an audience to change its beliefs, should be connected to a rhetoric of reading, which articulates how readers create meaning from what they read, and therefore enter a larger conversation (Brent, 1992). Much writing instruction, he claimed, focuses on the information-seeking and writing stages, leaving out the important matter of how knowledge is constructed. He stated,

> [Students] must learn to see [sources] as repositories of alternative ways of knowing, repositories which must be actively interrogated and whose meaning must be constructed, not simply extracted… Most importantly, they must learn how to select portions of those interpretations to incorporate into their own worldviews and ultimately to pass on to others though writing. (Brent, 1992, p. 105)

Brent (1992) argued for a model of reading rhetoric that could articulate how readers made sense of texts, as well as how they decided which meanings would influence their belief systems. This rhetoric would take into account not only the readers' prior experiences and their ability to enter into a dialogue with the texts and their writers, but also the roles of pathos, ethos, and logos in their text evaluations (Brent, 1992). In his view, a conceptualization of research writing grounded in this model of reading rhetoric would elucidate what leads readers to change their belief systems after reading sources and would support research writers' development.

Brent's argument that a rhetoric of reading would inform a conceptualization of research writing is important for several reasons. First, it is a response to what he perceives as a lack of "an encompassing definition of what it really means to compose discourse based on other people's texts" (Brent, 1992, p. 103), a situation that my own research confirms. Second, it further highlights the need, suggested by credibility research, to further understand how students read sources (messages) and determine which ones to believe. Last, because he calls on research writing instruction that focuses on the construction of meaning, his work suggests a need to explore the cognitive processes at work when students engage in research writing.

A Cognitive Skills Perspective

My review of literature about students' problematic use of sources from both the information literacy and the writing perspectives led me to theorize that in order to create a full picture of students' struggles with research writing, the two perspectives must interact. To better understand what happens for students across the whole research writing process, we should find ways to link their information-seeking behaviors to their

composing strategies. I believe that the way to do so is to look at students' research writing practices through a cognitive lens.

Writing and Cognition—Again?

Taking a cognitive viewpoint to study 21st century research writing may seem odd. In recent decades, composition studies scholars have been decidedly more interested in questions of identity, space, resistance, and public rhetoric—and rightly so. In choosing to assume a cognitive perspective here, my intent is not to ignore these disciplinary trends. However, there are precedents for conceptualizing the study of research writing within cognitive theories. For instance, Flower and Hayes (1980) used a problem-solving framework to investigate how writers negotiate the rhetorical situation and create individual representations of the rhetorical problem. Mike Rose (1980) also framed his investigation of writer's block within problem-solving theory. More recently, Amy Overbay (2003) examined students' argumentative writing in relation to their reflective judgment skills and concluded that more research needed to be done to explore the impact of cognition on students' writing. Thus, while the stage lights of composition studies have not shone much on cognitive views of writing in recent decades, the stage never truly went dark either.

I am not, however, advocating that we revive cognitive perspectives on writing in general. Rather, I am suggesting that a cognitive lens could help further our understanding of what happens for students when they engage in research writing, a kind of writing that demands they draw on a pallet of skills, including reading, critical thinking and evaluation, to create new meaning. My interest in turning to cognition, then, is driven by a set of assumptions, to which I now turn, about what writing with sources entails.

Research Writing as Problem-Solving

Admittedly, two guiding assumptions influenced my conviction that cognition should again inform discussions about writers' developments. First is my assumption that writing and critical thinking are inexorably linked. While I believe this is a widely held assumption, it is worth stating because it affects my thinking about why research writing deserves its own study. Of all the forms of writing students do, research writing, especially problem-based, argumentative research writing, is one that requires the highest level of critical thinking. In fact, writers' ability to establish themselves as credible researchers and meaning-makers is dependent upon their critical thinking skills and their understanding of how problems are solved in a given discourse community.

My second assumption, inspired by my reading about the role of personal knowledge epistemology on decision-making, is that research writing entails solving problems for which there is no set solution. Thus, research writing may benefit from being re-conceptualized as a problem-solving assignment. At the onset, I recognized that, as I was reminded recently, "no one has ever said that writing does not involve problem-solving" (Ben Rafoth, personal communication, 13 September 2010). By the same token, few have considered the implications of examining research writing from a problem-solving point of view. Yet much of the research writing students do in first-year composition courses is issues-based. This is true in research writing courses at my institution, as departmental requirements mandate the teaching of argumentative research writing. More generally, constructivist and social-epistemic calls for pedagogies that engage students in real writing, empower them, and get them to use their voices to effect change have made problem-based research writing a fixture in many writing courses.

Searching Is Thinking Is Writing

This literature review features several calls for more research to examine how students' thinking skills and prior knowledge and experience affect their abilities to find, select, and use sources. A few studies have even started investigating the link between the two (Fister, 1992; Norgaard, Arp, & Woodard, 2003; O'Connor et al., 2008; Whitmire, 2001). As early as 1992, Fister concluded her study of students' research processes with a suggestion that the relationship between students' cognitive development and their ability to conduct research be explored. Almost 10 years later, Whitmire (2001) noted that upper-level students who reported a higher level of critical thinking skills were more likely to use the library. Recognizing a need to further examine the link between critical thinking skills and information behaviors, Whitmire (2004) set out to study the information-seeking behaviors of 20 undergraduate students in relationship to their own beliefs about knowledge and how knowledge is created. She concluded that students' epistemological views affect their information-seeking strategies. For instance, students' views about knowledge determined whether they sought information that conflicted with their beliefs (Whitmire, 2004). Whitmire (2004) also found a positive relationship between students' critical judgment and their source selection. As students exhibited more advanced levels of reflective judgment, they were also more likely to use a variety of criteria for evaluating and selecting sources (Whitmire, 2004).

Research Writing and Epistemology

Another way to understand how research writers go about solving the research problem is to look at the beliefs about knowledge and knowing they hold. Epistemology theory has long posited a link between one's personal epistemology of knowledge and

one's decision-making, and identified developmental models that could be used to predict the type of thinking one may use to solve problems. For instance, Perry's (1970) seminal Scheme of Intellectual and Ethical Development posited that college students' views of knowledge were framed by three increasingly complex ways of thinking: dualism, whereby they saw knowledge as certain and known; multiplicity, which recognized that knowledge could at times be uncertain; and relativism, which recognized that knowledge was contextual.

Another model grounded in epistemology is King and Kitchener's (1994) Reflective Judgment (RJ) model. This model connects one's beliefs about knowledge to one's decision-making about ill-structured problems. It provides a framework for understanding how students use knowledge to create meaning that is more specific than Perry's scheme, which inspired it, positing three developmental periods in young adults' knowledge epistemologies: a period of pre-reflective thinking, during which one believes that knowledge is absolute and certain; a period of quasi-reflective thinking, characterized by uncertainty about knowledge; and a period of reflective thinking characterized by the recognition that knowledge is a complex construct created at the intersections of context, authorities, and personal construct (King & Kitchener, 1994).This model is relevant to my purpose: It inspired me to consider the research writing assignments in my courses as essentially ill-defined problems, and it led me to recognize the potential value of considering students' metacognitive skills in relation to meaning creation. As I read King and Kitchener's (1994) descriptions of the developmental stages of one's conceptualization of knowledge, I wondered how students' rhetorical choices may be affected by their own views about knowledge—how it is

"created" and by whom. Overbay (2003) raised this question in her study of writers' reflective judgment skills, suggesting "[t]he possibility that some writing behaviors may be related to the developmental nature of students' beliefs about knowing and justifying provides an important alternative explanation for instructors searching for ways to clarify for students what they expect from them" (Overbay, 2003, p. 208). I believe she makes an important point here. Yet no one seems to have investigated the role that students' personal epistemologies play in their information decisions and their research writing. My hope is to draw on the Reflective Judgment model and its breakdown of knowledge epistemology as a guide for exploring the relationship between students' beliefs about knowledge and the way they construct meaning when reading and writing from use sources.

Implications from the Literature Review

I now return to the impetus for this literature review: my study of what students, by their own account, believe a good source is, and how these beliefs shape rhetorical decision-making in their own research writing.

Calls for Research

In Chapter One, I suggested three reasons that more research focusing on research writing was needed. First, there is relatively little empirical research whose main focus is the research writing process and that seeks to understand students' perspectives. Second, I suggested a need for research to consider issues of authority in source-based writing to remedy the absence of serious discussions about the beliefs that writers bring into research writing and their construction of themselves as authors of source-based texts. Third, I posited that studies of research writing should explore student beliefs, not just

students' strategies. This would yield a better understanding of how students position themselves as writers and creators of meaning throughout the research process and broaden our picture of how students experience research writing, both of which would have meaningful implications for the teaching of writing.

The writing, research, and cognitive skills perspectives I discussed in this chapter confirmed these three reasons. They also made three calls for further research that shaped my study: research to re-conceptualize research writing, research to further understanding of knowledge construction in research writing, and research to expand conceptualizations of credibility. I address each call briefly here.

Re-Conceptualizing Research Writing

Perhaps the most pressing reason for a study that focuses on research writing is the call to re-conceptualize research writing. The research presented here suggests we need to abandon views of research writing as a static, two-stage, research/write form of writing that one can master by learning specific, task-oriented, static behaviors. What we need instead is to shift to a view of research writing as a dynamic set of recursive interactions between researching, writing, and thinking. Re-conceptualizing research writing in this way would not only lead us to recognize the role of thinking in research writing, but also to expand our understanding of how writers deal with credibility and authority, and how they construct meaning and enact their authorial agency.

What we need, then, is a new vision of research writing, one that I believe can only occur if it is fueled, at least partially, by insights from its stakeholders: students. My study contributes to this new vision. Because it examined how students conceptualize the use of sources during the whole research writing process, it did not assume the either/or

stance of most studies of research writing. Instead, I explored both how students go about seeking and selecting sources and how they use sources as they negotiate authority and authorial agency in their writing.

Expanding Credibility

A new conceptualization of research writing would include an expanded conceptualization of credibility. Although credibility is covered in writing handbooks, definitions of it vary greatly. In fact, definitions of credibility have remained the domain of speech, rhetoric, and advertising. Yet research shows that writers struggle with issues of credibility not only when they select sources, but also when they write with them. Thus, we need a working definition of credibility tailored to the needs of research writing. An expanding conceptualization of credibility for research writing would draw on the views of credibility I described in this chapter, dealing with message, source, and media credibility. However, it would also (1) be informed by students' own accounts of the processes they use to determine information credibility and establish their own credibility in the texts they create, and (2) take into account the role credibility plays in writers' enacting of authorial agency in research writing.

In my study, I explored students' beliefs about credibility and addressed questions raised in the literature review: How do students determine the credibility of a source? Do they focus on the source (and resource) or on message? Does the look of the message or its quality matter to them? When do they determine the credibility of a source? If we are to help students become more proficient information users, we must learn more about the strategies they use to make information judgments. My study investigated these strategies and looked for patterns. In so doing, it aimed to advance current conceptualizations of

credibility by considering these strategies in concert with how students establish authorial agency.

Understanding How Writers Construct Knowledge

Discussions of credibility in this chapter also raised questions about how students create new meaning during the research writing process. Brent (1992) suggested that research writing instruction take into account what he called the "gaping hole in the middle where much of the real work of knowledge construction is performed" (p. 105). What he called on us to do was to bring into focus what happens when we use knowledge to create new knowledge. This is an important question, and one that the scholarship that examines source-based writing from either a research perspective or a writing perspective misses. What we need is research that investigates how students create meaning through research and writing, and what roles individual and social constructs of knowledge play in meaning construction. This includes looking at the role of emotion and prior beliefs in how students create new meaning.

The concept of knowledge is a construct of this study. By positing that research writing entailed solving a problem for which there was no set solution, I built into this project the premise that research writing requires judgment, and that such judgment, which Kitchener and King (1994) labeled "Reflective Judgment," is affected by writers' epistemologies of knowledge. Thus, I explored students' epistemologies of knowledge in relation to their use of sources, asking them, for example, how they knew something was true, how they determined that one source was better than another, and when and how they knew they had a source they should keep. Their accounts provide insights about the

role of knowledge epistemologies in students' information-seeking and rhetorical decision-making, furthering current conceptualizations of research writing.

Why This Study Matters

I end this chapter with a word about why a study that focused on the whole research writing process was timely. As I reviewed the literature, I noticed that despite recognizing the prevalence of research writing in the undergraduate experience, examinations of research writing as a whole were absent. I was puzzled by this absence of theorizing about the research writing experience as a whole. Research writing may be just an academic requirement, but it is an important one in the development of educated citizens who are called on daily to make decisions based on information. One way to make it more meaningful is to understand what it entails, to acknowledge its complexities, and to explore the connections of its parts. This can only be done through an examination of research writing as a whole. In the next chapter, I describe in greater detail the four research questions that guided my study of students' beliefs about sources, as well as the methods I used.

CHAPTER III:

METHODOLOGY FOR THE STUDY

Purpose and Research Questions

The literature review in Chapter Two showed that students' use of sources in research writing is a complex issue which cannot be summed up in terms of students' lack of information literacy skills, their disregard for matters of credibility, their poor writing skills or even their failure to understand the purpose of research. In fact, the literature review presented evidence that students know more about sources and search sites than we give them credit for, that they are intentional in their use of sources, and that, at least with digital sources, they are aware that sources should be credible.

Chapter Two suggested three approaches to the study of research writing that are largely absent, yet would be helpful to our understanding of students' use of sources. First, no study has explicitly asked students what they believed a good source was or explored how they had arrived at those beliefs. Most studies have instead drawn their conclusions about students' conceptualizations of sources by examining students' use of sources. Second, despite cognition theories' recognition of the role that values, beliefs, and emotions play in one's decision-making, few investigations have examined the role that personal values and beliefs play in source-based writing. Third, studies about how students use sources have failed to explore research writing holistically. My investigation attempted to start filling those gaps: to look at students' conceptualizations of good sources holistically from the beginning to the end of a research writing assignment, and to explore the values and beliefs that framed students' use of sources in academic research writing projects.

The four research questions framing my study were these:

1. What strategies do students use, by their own accounts, to find and select sources?
2. What strategies do students use, by their own accounts, to compose with sources?
3. What beliefs guide students' search and composing practices?
4. In what ways is students' use of sources connected to their personal epistemologies?

Theoretical Perspectives

Exploring students' beliefs about sources was not as simple as asking them what they thought a good source was, although I did ask them this question at some point. The literature review in Chapter Two showed the complexity of processes at work when writers select, think with and write from sources. My research explored students' beliefs in three areas: through the search process, through the composing process, and in the final papers. It was concerned with both what students believed about sources and how to use them, and how these beliefs were enacted in these three areas.

Originally, the idea of researching how students conceptualized sources was inspired by King and Kitchener's (1992) Reflective Judgment theory, itself a subset of epistemology theory. Their description of the roles that personal beliefs about truth and knowledge play in individuals' decision-making about ill-structured problems –problems with no set solution– caused me to wonder how students' beliefs about knowledge and truth affected the decisions they made about sources in their research writing. King and Kitchener (1994) posited that the more sophisticated one's views of truth and knowledge, the more likely one is to exercise judgment to make decisions about complex problems. What it also suggested for me was that perhaps the lack of judgment that seemed to

characterize students' selection and use of sources was tied to their own views of truth and knowledge, rather than to carelessness or lack of skills. I believed that perhaps understanding what views of knowledge and truth students brought into the research situation might bring some light on the decisions they made about which sources to retain and how to use these sources.

King and Kitchener's (1994) Reflective Judgment theory proposed a developmental model for how students make decisions through their college years whereby advanced students demonstrated more complex views of knowledge and truth, and thus a greater degree of reflective judgment when solving problems, than did first-year students. Thus, I decided to set my sight on upper-level undergraduate students, rather than on first-year students. I hoped that by exploring the practices of students who had developed more complex views of knowledge, I could learn more about how they went about solving problems with no set solutions. As the study progressed, and it became clear that participants approached the research situation as a structured problem rather than an ill-structured one, this theoretical framework shifted to more recent theories about the role of personal epistemology in learning (Hofer & Pintrich, 2002). In any case, epistemology theory remained a dominant framework throughout this study.

The research design I selected was also influenced by my own philosophical bend towards social constructivism and my desire to explore students' use of sources in context and holistically. Thus, this study focused on how students used sources for a particular assignment rather than how they did so in general, and it investigated the use of sources during all the stages of the assignment, rather than during either the research or the composing stages, as has traditionally been done in past research. I also intentionally

focused on students' accounts of their use of sources, hoping to understand their own representations of the learning situation and its potential impact on the decisions they made as they dealt with sources.

I went into this study without a pre-conceived notion – or a hypothesis– about what students believed a good source was. I drew on Glaser and Strauss's (1967) Grounded Theory model to design research methods that would yield information about students' use of sources from a variety of viewpoints: in relation to their search process, in relation to their composing process, within their actual writing, in relation to the instructional setting as they understood it. Thus this study relied on four instruments– two questionnaires, an in-depth interview, and a research paper analysis, the latter two of which evolved as I learned from the data.

Finally, although I did not start this study with a hypothesis about what students believed about sources, I originally identified some themes from the literature review I felt needed to be explored: the role of sources in topic selection (Bodi, 2002; Fister, 1992; Kuhlthau, 2004); source selection strategies (Davis, 2003; Seamans, 2002; Rieh & Hilligoss, 2008); views of credibility (Metzger & Flanagin, 2008; Rieh & Hilligoss, 2008); the role of assignments in students' citation strategies (Knight-David & Sung, 2008); the intentions and motivations underlining use of sources (Anson, 2004; Harwood, 2009); ways students dealt with source credibility (McClure & Clink, 2009) and authorial agency (Bouman, 2009). These themes were useful in designing instruments to collect data on students' use of sources across the whole spectrum of the research assignment. In the end, however, the themes that framed participants' conceptualizations and use of sources in this study, which I discuss in Chapter Five, emerged out of the data.

Organization of the Chapter

This chapter starts with a description of the participants, which includes the process by which they were recruited. Following a brief review of the study's goals, I describe the four instruments I used– an in-depth interview, two questionnaires, and a research paper analysis, their respective purposes, and the methods for analyzing the data. The chapter concludes with a review of the study's limitations.

The Research Participants

The study involved thirteen junior- and senior-level college students enrolled in one of three courses in the field of literature, sport science, and business. I now describe where the study took place, which students were invited to participate, and how they were recruited. I end this section with a profile of the thirteen participants.

Site for the Study

The study was conducted at Tusculum College, the small, private, four-year liberal arts institution where I have been teaching for 18 years. This college has an enrollment of approximately 2,019 undergraduate students, 827 of whom are classified as traditional residential students and 1,376 of whom are working-adult graduate and professional studies (GPS) students. My study focused on residential students, whose profile is more typical of student bodies at comparable institutions. In 2009, the year for which the latest data are available, 63% of the students enrolled in the residential program came from the institution's home state, and 4% were international students. The ethnic makeup of the residential student body was 71.3% Caucasian, 19.3% African-American, and 4.7% non-specified. Roughly 53% were male, and 47% were female. The average ACT score was 21.8 ("College Statistics 2009/10,").

Being a faculty member at this institution was a factor in my site selection. I knew my colleagues well enough to feel comfortable that they would allow me access to their students. I also knew the workings of the college's scheduling, the constraints it put on students, and how it would dictate the time frame when I could meet with students. Although I was unlikely to know the participants in this study because most of my teaching assignments had been on the college's satellite campuses in the past four years, I was familiar enough with the student population of the residential program to understand references participants might make to their own curricular and non-curricular experiences.

Another reason for selecting this site was my own experience with research writing at the institution. I had been involved in the design of the college's required first-year research-writing course, and I had taught the course for approximately 17 years. I had also contributed to the design of the college-wide writing and information-literacy learning outcome rubrics and the departmental information-literacy assessment tool. I knew what students were supposed to have learned about research and source-based writing during their first year of college, and I was interested in knowing how these skills and knowledge transferred to other courses later in their college careers.

Recruiting Strategies

To identify participants, I designed a set of criteria students had to meet. I also arranged face-to-face visits with classes from which I hoped to recruit students. I describe each below.

Participant selection criteria. I was interested in exploring students' use of sources and conceptualization outside of and beyond the composition course. Most

research writing takes place in students' major areas, and I wanted to investigate students' use of sources in a setting whose purpose was not the teaching of writing. Consequently, four concerns influenced my recruiting strategies:

- Participants had to have completed their first-year composition requirements.
- They had to come from a variety of major fields.
- They had to be enrolled in a course that required a major research writing assignment.
- They had to be at least 18 years old.

To ensure these concerns were met, I decided to recruit participants enrolled in any Spring 2011 upper-level courses whose catalog descriptions listed research or information literacy as learning outcomes.

Recruiting visits. Only four courses required research assignments that met my study's needs. I visited each class. I chose this strategy over calling for participation through email, which would have been easier since I worked on a campus 70 miles away from the site for the study. I had two reasons for doing so. First, at this institution, enrollment in upper-level courses rarely exceeds 20 students, and I thought that a face-to-face invitation would be more effective than an email or a poster, which students tend to ignore. Second, the college's accelerated block schedule, under which courses last only 18 days, meant that I had a three-day time frame to recruit at the beginning of each course, before students became overwhelmed with their coursework. Waiting on students to respond to an email invitation from someone they did not know did not seem efficient.

The first class visit took place in February 2011. Disappointingly, despite the professor's warm introduction, none of the 20 students present that day elected to

participate. Upon hearing the suggestion that perhaps students had not volunteered because they thought they did not write well enough to take part in a study about research writing, I changed how I introduced the study to subsequent groups. I decided to use one of my instruments, a questionnaire that I had originally planned for students to complete after they signed up, when I visited each class so they could see what the study was about. Thus, the procedure I followed with the next three classes entailed a brief introduction, completion of a questionnaire (Questionnaire 1, described later in this chapter), and completion of the Informed Consent Form for those students who had decided to participate after filling out the questionnaire (Appendix A). The Informed Consent Form was attached to the questionnaire to protect students' confidentiality and ensure instructors would not know who elected to participate. Students left both documents on a table by the door as they left the classroom.

Table 1

Number of Participants from Courses Targeted for Recruiting

Course	Dates	Enrollment	Participants
Policy, Ethics and Strategy	Mar. 14 – Apr. 6, 2011	14	5
Senior Seminar in Sports Science	Mar. 14 – Apr. 6, 2011	12	5
Classical Mythology	Apr. 11– May 5, 2011	8	3

The Participants

Twenty students enrolled in three courses—Policy, Ethics and Strategy; Senior Seminar in Sports Science; and Classical Mythology—volunteered for the study (Table 1). In the end, 13 of them completed the study. Two were not selected because of their

academic status as a first-year student and a sophomore, respectively; three did not respond to my request for an interview; and four dropped out of the study before the interviews for reasons of their own.

The makeup of the participant pool was relatively diverse considering its small size (see appendix B). Their ages ranged from 20 to 26. Ten of them were seniors, who have since graduated. Three were juniors. The sample included slightly more females than males and included a majority of Caucasians, although the study also included African-American and Hispanic students and one international student for whom English was a second language. Majors were distributed across five fields of study: sport management, business administration, independent study (arts and business), English literature, and film and broadcasting (Table 2).

Table 2

Participant Demographics

Gender	Female	7
	Male	6
Ethnicity/National Origin	African-American	4
	Caucasian	8
	Hispanic	1
	International	1
Academic Status	Junior	3
	Senior	10
Major	Sport Management	5
	Business Administration	4
	Independent—Arts and Business	1
	English Literature	2
	Film and Broadcasting	1

Avoiding Attrition

When I designed this study, I was concerned with participant attrition, as there could be a period of up to two weeks between the time students volunteered and the time they participated in the interview. Also, since I resided and taught 90 minutes away from the collection site, keeping in touch with participants was challenging. Consequently, I designed a website hosted on the college's course management system. This invitation-only, password-protected site worked well. It was accessible to participants at any time and gave them access to a thank-you note recapping what they had agreed to do, a reminder to choose a reward for participation, a link to a printable copy of the Informed

Consent Form, a drop box for submitting an electronic copy of their final paper, and a link to a questionnaire (Questionnaire 2, described later).

Goals for the Study

The main goal for this study was to explore and offer a theory for students' beliefs about sources and the role these beliefs played in students' use of sources. This entailed identifying and categorizing the beliefs that shaped what sources they selected and how they used them as they composed. It also encompassed exploring how these beliefs came about and how they were enacted from the beginning to the end of a research writing assignment. Specifically, I had the following questions in mind:

- What beliefs had prompted participants to turn to a particular research site? To select one source over another? To identify a source as a good source during a search? To use a particular source in their writing?
- What roles did prior experience, course requirements, and personal values play in these beliefs? What other forces shaped these beliefs?
- What beliefs determined how they used sources in their papers? Where did these beliefs originate? How were they enacted, especially regarding how students positioned themselves as authors of their papers? Creators of new meaning?
- Were these beliefs reflected in their final papers?

Data Collection Methods

In this study, I sought to collect data that would provide students' perspectives on their own use of sources strategies and the beliefs guiding them. I was interested in using methods that would allow me to hear stories directly from the mouths of students, so I elected a qualitative methodology whose core collection instrument was one-on-one

interviews with participants. However, my methodology also followed Glaser and Strauss's (1967) recommendation about using "slices of data" to provide a variety of viewpoints from which categories of data can be better understood. In addition to the interviews, I collected data through two short research questionnaires and an analysis of each student's research paper. I describe each below in the order in which it was used.

Research Questionnaires

Prior to the interviews, participants completed two short questionnaires. Questionnaire 1 collected demographic data and general information about students' prior experiences with research writing. Questionnaire 2 inquired about specific strategies participants had used while working on the papers they submitted for the study. Both questionnaires were designed to collect information about each participant that could later be cross-referenced with data collected through the interviews and the paper analysis. The questionnaires were also used to create a profile of the participants as a group and identify potential patterns among the members of this group that would be worth exploring in the interviews or the papers. I describe each questionnaire briefly.

Questionnaire 1. This 13-item questionnaire was administered to potential participants during my recruiting visit. It had three purposes: to incite interest in the study; to collect demographical information about participants such as their gender and academic status, thereby ensuring volunteers met the study's criteria; and to collect basic information about participants' prior information-seeking and research-writing experiences. Aside from those seeking demographic information, all the items were multiple-choice questions. They were organized around three themes: prior experience with library research and research writing, resources students generally turned to when

looking for sources, and grounds for selecting and trusting a source (appendix C). The questions related to the latter two themes were drawn from the credibility, information process, and reflective judgment scholarship presented in Chapter Two.

I reviewed all the questionnaires on the day they were administered to identify volunteers and ensure they qualified for the study. Only two students were excluded as a result, one because he had not completed the composition course requirements, and the other because she did not yet have junior status. I discarded questionnaires from students who had not signed an Informed Consent Form.

Questionnaire 2. This 10-item questionnaire was administered electronically[1] upon completion of the research paper and prior to the interview, approximately two weeks after students completed Questionnaire 1. Only those students who had elected to participate in the study were invited to complete it. Questionnaire 2 inquired about the search and source selection strategies students had used while working on the research assignment they had just submitted for this study. Combining multiple-choice and short answer questions, it was organized around four themes: research sites, including reasons for selecting them; information-seeking methods; justification for source selection; and beliefs about what a good source was (appendix D). It drew from features of credibility, information search process, and reflective judgment theories presented in Chapter Two.

I designed this questionnaire hoping to collect preliminary data about students' strategies that could be expanded on during the interviews. However, most students did

[1] This questionnaire was hosted on QuestionPro, an online survey tool for which the college had a license. Participants accessed it through a password-protected link from this study's website.

not take the questionnaire until minutes before their interviews, despite the fact that the questionnaire was available to them on the study's website at least two weeks before the interviews (I reminded them about it verbally when we set up the interviews and through a text message two days or so before the interviews). Consequently, I was not able to review their answers until after the interviews were completed, when each individual's set of answers was cross-referenced with the data collected through his or her interview and paper.

Interviews

Besides the questionnaires, participants agreed to a 45-minute one-on-one interview during which they talked about the information-seeking and composing strategies they had used when working on the paper submitted in this study. They were rewarded with a $15 gift card for participating in the interview and submitting a copy of their papers.

I contacted participants to set up individual interviews about a week before the end of their course. Three students did not respond to my request and were dropped from the study. Four other students scheduled interviews but subsequently had to withdraw for personal reasons. Their questionnaires were withdrawn from the study. In all, I conducted 13 interviews, whose length ranged between 25 minutes and 53 minutes. They took place over six afternoons in April and May 2011, in a study room at the college's library. One took place in a classroom because the library had closed. Each interviewee and I sat adjacent to each other at a large rectangular table so that we could look at papers together. The only exception was the interview in the classroom, whose narrow furniture required that the participant and I face one another. On the table were my Sony digital

recorder, a small microphone participants wore, and, in front of me, a folder containing the interviewee's research paper, questionnaires, Informed Consent Form, and gift card.

The interviews were semi-structured, in keeping with principles of naturalistic inquiry (Erlandson, Harris, Skipper, & Allen, 1993). They all drew from the same list of potential questions (appendix E). However, I adapted some of the questions to fit the situation of each interviewee, based on their answers to Questionnaire 1 or the way the interview evolved. Each interview assumed a three-part format. The first set of questions inquired about participants' prior experience with research writing and their feelings about the research assignment they had just completed. The next set of questions dealt with the search process and the beliefs that guided their selection of sources during this process. I drew from the information search process and credibility theories presented in Chapter Two to inquire about the roles that their beliefs about topic selection, research sites, good sources, and the purpose of research writing had played in their source selection.

The final set of questions dealt with participants' use of sources during the composing process and the beliefs that guided it. Originally, I had opted for a discourse-based interview format (Wang & White, 1999) whereby participants read their papers and explained the occurrence of each source. After the first two interviews, however, I abandoned this strategy. As I listened to the students' monotone reading of their papers and watched their unenthusiastic, repetitive efforts to justify source occurrence, I felt we were wasting precious minutes of interview time. In the remaining interviews, I asked students to identify their best source, and to talk about why/how they had used it. I also

asked them to explain why they had used sources generally, and to show me examples of what they were talking about in their papers, a method that proved more productive.

After the interviews were completed, they were sent to a professional transcription service for a verbatim transcription. I then checked each one for accuracy and emailed a copy to respective interviewees for feedback. Seven of them responded, each indicating that their transcription was fine. In the end, I collected 265 single-spaced pages of transcriptions, which I then coded, as I describe later in this chapter.

Research Papers

Besides completing the questionnaires and participating in the interview, students also submitted their research papers electronically through the project website. Thirteen papers were submitted. Their length ranged from 6 to 12 pages, for a total of 120 single-spaced pages.

I was interested in these papers for two reasons. First, during the interview, I wanted students to be able to show me how they had used sources in their writing. I was concerned that asking them to simply remember what they had done with their sources might lead to erroneous or incomplete recollections. Being able to leaf through their papers might help trigger their memories about a particular use of sources, if needed. Indeed, participants referred to their papers during the interviews, and as they did so, I placed a sticky colored tab next to the section they discussed so I could return to it if needed after the interview. Second, I intended to conduct a source analysis for each paper to see how students had *actually* used sources.

Data Analysis

To some extent, the data analysis started as soon as I set out to recruit volunteers, and it shaped the study. The unanticipated difficulty of identifying upper-level courses that required sustained research writing assignments, for instance, provided an interesting insight into students' exposure to source-based writing. Similarly, the struggle the first two participants encountered as they attempted to justify source occurrences in their papers led me to revise how I asked participants to explain their use of sources. Asking them to focus on their best source provided unanticipated, yet helpful, corroboration of how they viewed good sources.

Once the interviews were completed and transcribed and the papers collected, I compared participants' individual questionnaires to what they had said in their interviews and done in their research papers as a way to conduct member checking and to triangulate data, as recommended by Erlandson et al. (1993). Then, approaching each data set separately at first, I used Glaser and Strauss's (1967) constant comparative method to categorize and analyze the data. The data analysis started with the interviews, followed by the questionnaires and then the papers. I describe each briefly.

Interview coding. The 13 interviews I conducted yielded eight-and-a-half hours of recording and 266 single-spaced pages of transcribed material. I coded each transcription manually, using Word's Comment function. In keeping with the literature review and my research questions, the original coding system aimed to organize the data into four main areas. I list examples of categories for each of these areas below:

- students' definitions of a good source: Good source, Best source;

- their information-seeking processes: Source selection, Topic selection, Search strategy;
- their composing processes: Writing process, Self as writer, Authority, Voice
- the cognitive processes involved in information-seeking and writing: Truth, Selection criteria, Beliefs about research, Self-efficacy.

During the initial coding, I highlighted excerpts in students' interviews that matched these initial categories. I identified subcategories and descriptors that I thought best described what participants had said in each excerpt (Table 3). Then I inserted a comment next to each excerpt, identifying its category, subcategory and descriptor. For example, a highlighted excerpt might be labeled: "Finding sources_ Internet_ discouraged by instructor." I also identified statements that did not fall under any of the initial categories but that I thought were relevant to the study's research questions.

Table 3

Excerpts from Original Coding Spreadsheet

CATEGORY	SUBCATEGORY	DESCRIPTOR	PARTICIPANT
GOOD SOURCE	EASE OF USE	Criteria_ Characteristics_ Ease of understanding	Ricky
GOOD SOURCE	AUTHORITY	Criteria_ Characteristics_ Peer reviewed	Michael, Richard, John, Monique
CREDIBILITY	IMPLIED	Peer-reviewed- Impact of instructor	Monique
FINDING SOURCES	DATABASE SEARCHES	Instructor requirements-SportDISCUSS	Christina

The first round of coding helped me become familiar with the data and identify descriptors for students' accounts of their use of sources. It yielded no fewer than 700 Word comments, which I copied into an Excel spreadsheet so they could be further organized, synthesized and searched. Consolidating categories and descriptors took many hours and several additional rounds of coding. During this process, I moved away from the themes suggested by the literature review, and let the categories emerge from the data itself. This meant re-reading interviews transcriptions several times, going back to some of them to identify patterns, or to see whether an idea expressed by a participant may have been shared by others but initially overlooked. Between rounds of coding, I used mapping to visualize categories and their properties and to identify potential connections suggesting that categories or properties needed to be merged or discarded. At one point, I also turned to a respected colleague, an English professor, who agreed to code one interview to see whether I was overlooking categories or properties.

Ultimately, this coding process helped organized the interview data around five major themes: beliefs about good sources, factors influencing those beliefs, beliefs about composing with sources, beliefs about information-seeking, and the impact of those beliefs on their search and composing processes. These areas became overarching themes for my coding system. I created a spreadsheet for each one and moved the relevant data there to consolidate codes in more manageable sections. A complete list of the categories and properties used during the coding process is available in appendix F.

Questionnaire analyses. Once the interviews were coded, I analyzed the data from questionnaires 1 and 2 to see whether any patterns had emerged in the way this group of participants approached research writing. Each participant had completed both

questionnaires, which yielded approximately 39 pages of materials. Participants' answers to multiple- choice and ranking questions for both questionnaires were entered in an Excel spreadsheet, and frequency counts were conducted for each possible answer. The analysis of questionnaire 1 yielded information about the group's demographics, participants' fields of study, their prior experiences with research writing and library research, and some of their search strategies. Questionnaire 2 yielded information about the search and source selection strategies most commonly used in this group when working on their research papers. A list of students' answers to short-answer questions was also compiled for later comparison with the interview data.

Earlier in this chapter, I explained how the two questionnaires were designed to inform individual interviews, and how submission timeliness issues led me to consider the final questionnaire after the interviews in most cases. Consequently, the questionnaires became a way to confirm participants' interview answers. Students' individual answers were compared to their interview transcripts, and any differences were noted. Not surprisingly since most students had completed questionnaire 2 hours to minutes before their interviews, there was little discrepancy between what they shared in that questionnaire and in the interviews.

Research paper analysis. The next step in the data analysis was analyzing use of sources in the papers participants had submitted. Guiding this analysis was the point made in the literature review that even when students find good sources, their research writing is not necessarily better. The analysis was conducted on 13 papers, totaling 130 double-spaced pages and 33,785 words. I reviewed each paper with four questions in mind: How did students' actual use of sources compare with their accounts of what a

good source was for a paper? How did students incorporate sources into their prose? What rhetorical purposes did sources serve in the papers? Did their use of sources reflect the beliefs and values they described in their interviews?

To answer these questions, I designed an 11-item checklist which combined elements of checklists I had seen in citation analyses studies (Anson, 2004; Davis, 2003) as well as elements that had emerged from the interview coding (appendix G). It was organized around several concerns. For instance, I wanted to see whether participants had relied more on scholarly sources or, as the research suggested they would, on popular sources. So I ran a count for each type of source and tracked the types of sources used. Citation research discussed how students positioned themselves through their use of sources, so I looked for evidence of such positioning. Claims that students' conceptualizations of themselves as knowers prevent them from engaging with their sources led me to look for evidence of commentaries on their sources in their papers and to keep track of the attributive tags they used. The analysis checklist was also shaped by the interview analysis I had conducted. For instance, students' accounts of how they negotiated their own voices when they wrote with sources suggested that they often equated voice with first-person-pronoun use. When I analyzed the papers, I decided to look for occurrences of first-person pronouns in their papers. Similarly, the importance they placed in the interviews on author expertise and authority inspired me to look at how they conveyed this authority in their papers, especially through the use of attributive tags. The paper analyses led to 26 pages of notes.

Cross-referencing. The last stage in the data analysis was a comparison of each participant's interview, questionnaires, and paper analysis. During this stage, which was

rather informal, and whose outcomes I noted on the paper analysis checklists, I identified sources or processes students had talked about in more than one instrument, and wrote comments about aspects of their papers that had surprised me. Although the data I drew from these four sources mostly corroborated each other, this comparison helped me get a better picture of each participant's perspective and also yielded some surprises, which I will describe in chapter 4, with the results of each analysis.

Limitations

In designing this study, I addressed several threats to its validity: the potential for misinterpreting students' accounts, the geographical distance between the site of the study and my own campus, participants' reactivity, and the fact that participants would be working on different kinds of research assignments. I describe each one below.

Using Interviews

A major challenge in any project that relies on interviews is the risk of misunderstanding what participants are saying (Erlandson et al., 1993). I faced this challenge on three fronts: as an English-as-a-second-language speaker with a foreign accent and a tendency to ask several questions at once; as a researcher with little knowledge in the subject matter students would be writing about; and as an interpreter of students' recollections. I addressed these challenges by consistently paraphrasing what students were telling me during the interviews. I also asked the same questions in different ways several times during the interview and in the questionnaires.

The interviews also presented another challenge. I was concerned about slipping into "teacher mode" and providing help with either the research or the writing. I believed that doing so would have interfered with the authenticity of the students' accounts by

reinforcing my role as a teacher and an authority. Hoping to minimize my interference in participants' processes, I waited until they were done with their papers before interviewing them. A downside of this decision was that they had to recall events and experiences that in some cases had occurred a few weeks earlier. Their recollection might have been spotty, blurry or even inaccurate. I addressed this issue in part by having copies of their papers available during the interviews, because being able to leaf through their paper might help trigger their memories about a particular use of sources, if needed. I asked them to identify places in their papers that illustrated what they were saying. Also, during the data analysis, I used the questionnaires and research papers as additional sources of information to triangulate data.

Dealing with Distance and Reactivity

The influence that the researcher and the participant have on one another is a typical challenge in interviews (Erlandson et al., 1993; Maxwell, 2005). When I set up the interviews, I knew that I had to be prepared to deal with some reflexivity. As a writing teacher, I would probably at times react to what students were saying, just as they were likely to tell me what they thought I expected. This challenge was perhaps aggravated by the fact that I had no opportunity to develop a relationship with the participants to help minimize the distance that my writing teacher identity would necessarily create between us. Also, because I was old enough to be these students' mother, and they did not know anything about me, I had to deal with a relational distance that reinforced my position of authority. I tried to address this limitation by dressing down, connecting my experience trying to finish a degree with their own, and downplaying the fact that I was a professor at the college.

Finally, this study drew on students' accounts of how they experienced one instance of research writing, and it is possible that this one instance, or their description of it, was not representative of other experiences they have had. There was little that I could do about this, although questionnaire 1, which focused on their general practices and experiences with research, provided some data against which to compare what students described in the interviews. I also believe that there was enough confluence between the participants' accounts and their relevance to the research I presented in the literature review to establish the validity of the data.

Dealing with Different Assignments

I initiated this study with preconceived notions about the frequency of research writing in upper level courses. Admittedly, I was disappointed to find that the majority of the professors I contacted did not require their students to do much writing. Another mistaken assumption I held was that students in upper-level courses engaged in significant research writing assignments. I was surprised to learn that several courses with source-based assignments either provided the sources from which students should write or limited requirements to one source. Finally, based on the college-wide writing rubric that emphasized thesis-driven assignments, I had expected most assignments would entail argumentative research writing. I was forced to revisit this assumption upon discovering that the students enrolled in the Sports Science Seminar were working on a literature review rather than a traditional essay. Their review, however, was complex and was aimed at getting them to practice writing a research article. I elected to retain these participants, a decision that would later lead to interesting insights about how students negotiated authority. In the end, this study's participants wrote one of two types of

papers, based on the course in which they were enrolled: a literature review or an argumentative research paper.

In the next chapter, I present what the analyses of the questionnaires, the interviews, and the research papers revealed about students' conceptualizations of good sources, the beliefs that underlie them, and the strategies that resulted from those beliefs.

CHAPTER IV:

RESULTS

Research Questions

Having presented the investigative methods I used to explore students' experiences with source-based writing in the previous chapter, I now turn to what the analysis of 39 pages of questionnaires, eight-and-a-half hours of interview recording–266 single-spaced pages of transcribed materials– and 130 double-spaced pages of student writing revealed. These were the four research questions that framed this study and whose answers I present in this chapter:

1. What strategies do students use, by their own accounts, to find and select sources?
2. What strategies do students use, by their own accounts, to compose with sources?
3. What beliefs guide students' search and composing practices?
4. In what ways is students' use of sources connected to their personal epistemologies?

Organization of the Chapter

I start with a profile of the research writing experiences participants had at the onset of the study as well as of their attitudes toward research writing. This profile was drawn mainly from the questionnaires students completed at the beginning of the study, complemented by accounts from their interviews. The second section of this chapter focuses on the strategies and beliefs that guided participants' searches for sources, including topic selection, identification of knowledge sites, and general search methods. It shows that participants relied on skills acquired when they were novice researchers to complete upper-level research assignments. The third section presents findings about the ways in which participants determined which sources to trust. These findings suggest that

they were aware of the importance of source credibility, but that their selection criteria were for the most part driven by personal constructs such as worldviews, experiences, skills, and writing goals. The findings also suggest that source authority was an important construct in their conceptualization of truth in information. Section 4 starts with the results of the paper analysis and then moves to students' strategies for establishing their own credibility. It concludes with a review of the rhetorical functions they assigned to their sources and a description of how participants positioned themselves in their writing. The final section explores the general motivations that guided students' use of sources in their writing. It suggests that they saw research writing as an academic exercise, and that their use of sources was determined by their desire to do well on the assignment.

A Profile of Participants as Research Writers

Research presented in Chapter Two has suggested that personal characteristics such as students' prior information-seeking experiences and self-efficacy shape their source selection and use. Thus, I briefly explored what skills and experiences students had acquired prior to enrolling in this study and how competent they felt about conducting research for the paper they submitted. I start with the participants' information-literacy knowledge and skills.

Prior Formal Information-Literacy Instruction

At the onset of the study, all the participants had received formal instruction in information literacy and research writing. In questionnaire 1, all 13 participants indicated that they had taken English 111, a required research-writing course at the institution. This course, which I helped design and which I taught for over 15 years, includes requirements that students participate in information literacy activities such as searching

the library catalog and databases, conducting Boolean searches, using features of advanced searches, differentiating between popular and scholarly sources, and evaluating Internet sources. Consequently, it can be assumed that all the participants had been exposed to instruction in these areas. Furthermore, in the interviews, 12 out of 13 students said they had enrolled at the college as first-year students. This meant that they had likely attended the one-hour library orientation required of all first-year students during their first semester. Although the participants were juniors and seniors, several of them brought up these first-year experiences in their interviews to explain the information-seeking strategies they used in their junior- and senior-level work. They also suggested they felt they were expected to know how to use library resources in their current courses.

- [W]hen I first came to Tusculum, in all of our orientation classes, they had someone come in and show us a Tusculum database and like, all the different sources, you know, you could find through the Tusculum Library database. (Roxane)
- [T]hey told us about [shelf searches] in freshman orientation. We had a class that we had to go to and there was a tour of the school that they gave in the library area on how to use the library catalog and all that. (Monique)
- [W]hen I had this Dr. M. in class, English class, she actually had us up there [at the library] but this is the senior class, so they assume that you already went through proper steps in the library before you enter the class (Jimmy)

Four students credited even earlier experiences with their high school English teachers for their research skills (Lily, Matthew, Richard, Samantha). From all these accounts, it

can be assumed that all the participants in this study had been exposed to formal instruction in information literacy skills during their first year of college. Furthermore, the fact that several participants credited these early experiences for their ability to conduct research during this study suggested that they relied on skills and knowledge they had acquired during or prior to their first year to complete senior-level research assignments.

Research Activities in Coursework

Participants' answers on the questionnaires suggested that most had completed research assignments on a regular basis in the previous year, although not all these assignments involved writing. Across majors, all but one said that they had conducted research at the library within the semester, with eleven indicating that they had done so in the last course they had taken. Twelve of them also indicated that they had to look for sources in the majority of their courses in the past year (table 4).

Table 4

Prior Experiences with Research (N=13 participants)

When is the last time you looked for sources at the library for a course assignment?			
In the last course I took.	Within the last semester.	Last year.	I don't remember.
8	4	0	1
In the *past year*, how often did you have to find sources?			
In every course.	In the majority of courses.	Rarely.	Never.
3	9	1	0

Perhaps as a result of engaging in research regularly, several participants expressed confidence in the interviews regarding their information-seeking skills.

- I'm a senior, I've been here all four years, my major is sport management and my experience with research writing has been … easier due to the research databases that we have, just for our major and I think it has been very helpful, like sports-wise since I'm a sports major. (Crystal)
- I'm a junior so I've been here three years and my major is English literature, and I guess I've done research for most of my classes. I don't feel like I'm very experienced at it, but it's working out for me. (Holly)
- I've been at Tusculum College for four years and I have majored in sport management and I've done research projects in . . . at least one every semester that I've been here. So I've done it several times and by now I'm really familiar with how to do it and what's acceptable and what's not acceptable, as far as sources and things like that. (John)

Source-Based Writing in Prior Coursework

Participants gave conflicting accounts of their prior experiences with source-based writing. In questionnaire 1, which they took at the beginning of the study, the majority of the participants reported that they had engaged in academic research writing assignments regularly in the past year. Nine participants out of 13 indicated they had completed a research paper in every course or the majority of the courses they had taken in the previous year. Eleven out of 13 indicated that the average length requirement for the papers they usually wrote was 5 to 10 pages long (table 5).

Table 5

Prior Experiences with Research Writing from Questionnaire 1 (N=13)

In the *past year,* how often did you write *research* papers in courses?			
In every course.	In the majority of my courses.	In few courses.	Never.
2	7	4	0
In courses that required a research paper, what was the length requirement for the paper?			
Fewer than 3 pages.	3–5 pages.	5–10 pages.	Over 10 pages.
0	2	11	1

In the interviews, participants presented a more nuanced picture of their prior experiences. Six participants confirmed they had to write papers regularly in their coursework. Monique, for instance, stated the following:

> I would say almost every class made you do a paper. Unless it is like maybe math or something like that. But like, most of the classes that I've been in I've had to write a paper. Some sort of paper. Or a review or something like that. (Monique)

However, participants did not necessarily feel prepared for the research writing they had to complete in this study. Students who were assigned a literature review reported having no experience with this type of assignment and struggling to write it (Crystal, Christina, John, Michael, Richard). Furthermore, seven students could not recall working on a major research writing assignment recently. Several reported that aside from the research papers they had completed in their first-year composition courses, their research assignments had generally been shorter or involved a limited number of sources:

- I've written a few just with English 111 . . . I've written more article critiques than research papers. (Crystal)
- I really . . . haven't had many research papers to actually do. I think I've done about maybe three big ones since I've been here. (Christina)
- In the English class, I had a paper there that was pretty, pretty extensive. I had a research paper in psychology with an abstract, which is a different kind of method but it was all, it was an intense research drawn from the research data, databases just like this. I've had smaller papers that you could pull from Google and places like that but I don't really consider those good ones. (Richard)
- I haven't wrote [sic] a research paper . . . until I got into this class. The last research paper I had was Dr. M. in our English 111. (Jimmy)

These comments were consistent with my own experience setting up the study. When I contacted instructors to recruit participants, I found out that the majority of upper-level courses did not include a significant research writing assignment. This suggested that beyond their first-year composition classes, students had encountered limited opportunities to engage in sustained source-based writing assignments.

Participants' Feelings About Research Writing

Research presented in Chapter Two suggested that students' attitudes towards source-based writing affect how they write with sources, so I asked how they felt about research papers during the interviews. A few participants had a positive outlook on source-based writing. Jimmy likened it to "exploring a new planet," while Lily welcomed the opportunity to further delve into a topic in which she had had an interest since high school. Other participants assumed a pragmatic approach, especially those who felt

confident in their ability to carry out the assignment. John, for instance, said writing a research paper was "like watching a lot of movies on one particular subject and then telling your friends about that subject."

Several participants, however, were forthcoming about their dislike of source-based writing. Roxane called research writing "a challenge," while Christina, Samantha, and Holly called the process "a drag," "the worst thing you have to do in college," and "torture," respectively. Richard laughed that it was "hell." These participants and others in the study reported they did not mind the research so much because they often learned from it. What they minded was writing with sources. Holly, for instance, said that if it were up to her, she would not use sources. Christina agreed: "If I had to pick between a research paper or just writing up a paper, I would avoid the whole research [sic]."

Interestingly, some of these students also reported feeling personally connected to their topics. Thus, for them, the opportunity to write on a topic of their choice about which they felt strongly did not necessarily lead to a more positive outlook on source-based writing. This finding was consistent with research presented in Chapter Two that showed that students' engagement with their topic did not lead to better writing. For participants in this study, source-based writing remained an academic exercise, or as Samantha put it, "It's a paper—you have to do them."

The Paths to Sources

To better understand how students identified sources for their papers, I asked them to describe how they had gotten started with their research assignments. They articulated their strategies around three major themes, which I describe in this section: topic selection, knowledge site selection, and search methods.

From Topic to Source and Back

Drawing from information literacy research suggesting that topic selection was a key moment in students' information-seeking behaviors, I started each interview by asking participants to describe their process for identifying a topic. Their accounts suggested that topic selection hinged on sources: They identified topics by turning to sources, and settled on a specific focus thanks to a key source which then influenced their information-seeking strategies.

Topic selection. Ten out of thirteen participants said the search for a topic started with a list of topics provided by their instructors or from their textbook. One student, Holly, reported choosing her topic from a list she updated as her professor made topic suggestions during class lectures. Despite being given a list, students reported feeling freedom over topic selection. How they experienced this relative freedom determined the amount of anxiety they reported feeling as they looked for a topic.

Among these participants, six of them, Richard, Christina, Lily, Holly, Michael and Monique, said they welcomed selecting a topic of their choice. Richard reveled about "the beauty of being able to pick our own topic" even as he later recounted:

> [The professor] gave us a list but you know, he also let us dive out of that list in case there was something out of a choice of fifty. . . . If nothing sparked our interest, we could kind of go out of that and that's cool. I think that's important because it's just like reading a book for me. I don't like to read unless I know that I'm gonna be interested. I don't wanna dive into a research paper unless I know. I'm not going to put my best effort into it unless I have a passion or interested in [sic]. (Richard)

Christina liked the freedom to choose one's research topic, which she thought enabled her to find good sources. She said, "Sometimes I find where you have those topics that teachers give you and you go and find information and it's just like you can't find it, whereas I picked my topic. I looked for it and there was information everywhere." For these participants, selecting a topic was empowering, and they credited the freedom to choose it for the success of their paper. These students reported having a sense of purpose besides completing an assignment: to gain more knowledge for their future, to prove a professor wrong, or to educate others about something that mattered to them. That put a positive spin on their research.

Not everyone felt empowered during the topic selection stage. For Samantha, Matthew, and Roxane, for instance, the process was strenuous and anxiety-producing. Those who struggled through this stage often said they felt overwhelmed by the lack of specificity in their assignment, and the fear of either not having enough to say or having too much to cover. One student recalled,

> My teacher gave us a brief little paragraph on what we are supposed to write in the first place, but then it left it pretty open. Trying to figure out what topic you could write a long paper and still try not to repeat and stuff like that [was challenging]. (Samantha)

Michael and Roxane went to their professors for advice on potential topics or validation of the topics they were considering, sometimes with mixed results.

> [My professor] was just like, focus on the ethic [sic] issue on the recession and oh my gosh, there's so much that went wrong in that recession that you could write a hundred-page paper on that and he just wanted a six-page paper on that. (Roxane)

Others turned to trusted people. Roxane explained her decision to talk to her brother-in-law: “It kinda helps when you talk to someone about it and they're like, maybe you should focus more on this, just to hear someone's opinion and get it organized.” Richard likewise sought advice from his father, a successful businessman.

Six participants, Roxane, John, Samantha, Richard, Michael and Christina, reported researching several topics before settling on one. Some used these searches to gauge the availability of sources before settling on a topic. For instance, John described settling on a topic through a database search:

> I usually just go to the research database online and I type in a couple of things that interested me. . . . I looked at drug use in sports and in racism in sports. And it looked I was gonna be able to find more information on, on the racism so I thought that’ll be easier and so I ended up choosing that. (John)

Roxane described a similar process using Wikipedia. She stated, “If I found one good source, that was great, but I needed seven more. . . . If I didn't find at least eight, I wasn't going to stick to that topic.” Overall, six students described using sources, Internet, print sources, or trusted people to identify a topic.

The turning-point source. The most significant finding in participants’ accounts of their topic selection, regardless of how they experienced this stage, was that it hinged on one key source. Students credited this key source for closing the door on the topic selection stage, and I labeled it “turning-point source” because they not only used it to settle on a topic, but also, as I explain below, to determine their information-needs, to evaluate other sources, and even, in some cases, to plan their papers. In short, the turning-point source shaped participants’ information-seeking strategies and their writing. And

for some participants, it went one step further: It solved their research problem.

Because the turning-point source frequently became what participants labeled their best source, its features provided a first glimpse into what students believed a good source was. Turning-point sources were found early during the search process. For instance, Michael reported that his turning-point source was the second one he identified. A turning-point source could be any type of source—journal articles or books—and could come from a student's personal collection, the college library, or even the course's required readings. For example, Lily, a student in classical mythology, recalled using an encyclopedia of mythical creatures she had bought at a local bookstore:

> It was an encyclopedia of mythical creatures from all across the world and it started out with an explanation of monsters and animals and creatures and all sorts of stuff that revolve around these creatures and it really helped me out and I was quite thrilled to use it…It helped me at the beginning to focus on the topic and it also helped during the process by giving me something to relate back to. (Lily)

Furthermore, turning-point sources often provided topic overviews, as illustrated in Samantha's comment that her key source "broke [the housing crisis] down into all the different reasons why it occurred in the first place." Another common characteristic of turning-point sources was that they often matched students' interests and beliefs. Michael recalled finding a source about multiculturalism in sports that helped him decide to stay with the topic because, in his words, "I can relate to it and, like, it just broke it down so well I could write about it."

For participants in this study, choosing a topic was a process framed by sources. For Samantha, Jimmy, Michael and Lily, it started with sources, and for all the

participants, it ended with one source, the turning-point source, which determined the focus of their research and papers. In some ways, this key source epitomized their conception of a good source. Its characteristics indicated that students valued sources to which they connected personally, that provided background about their topic, and that could be found easily.

Knowledge Sites

I now turn to the places students searched to find their sources and to what they revealed about students' beliefs about good sources. Research presented in Chapter Two suggested that students turn to the Internet first to look for sources, and they select search strategies based on prior experience and efficiency. This description only partly applied to participants in this study. As their questionnaires suggested, participants identified library databases, Google, and the library catalog as the top knowledge sites they turned to when conducting searches (Figure 1). However, the strategies they recalled were unlike the typical information-seeking experiences described in Chapter Two in that searches were overwhelmingly initiated in the library, not on the Internet.

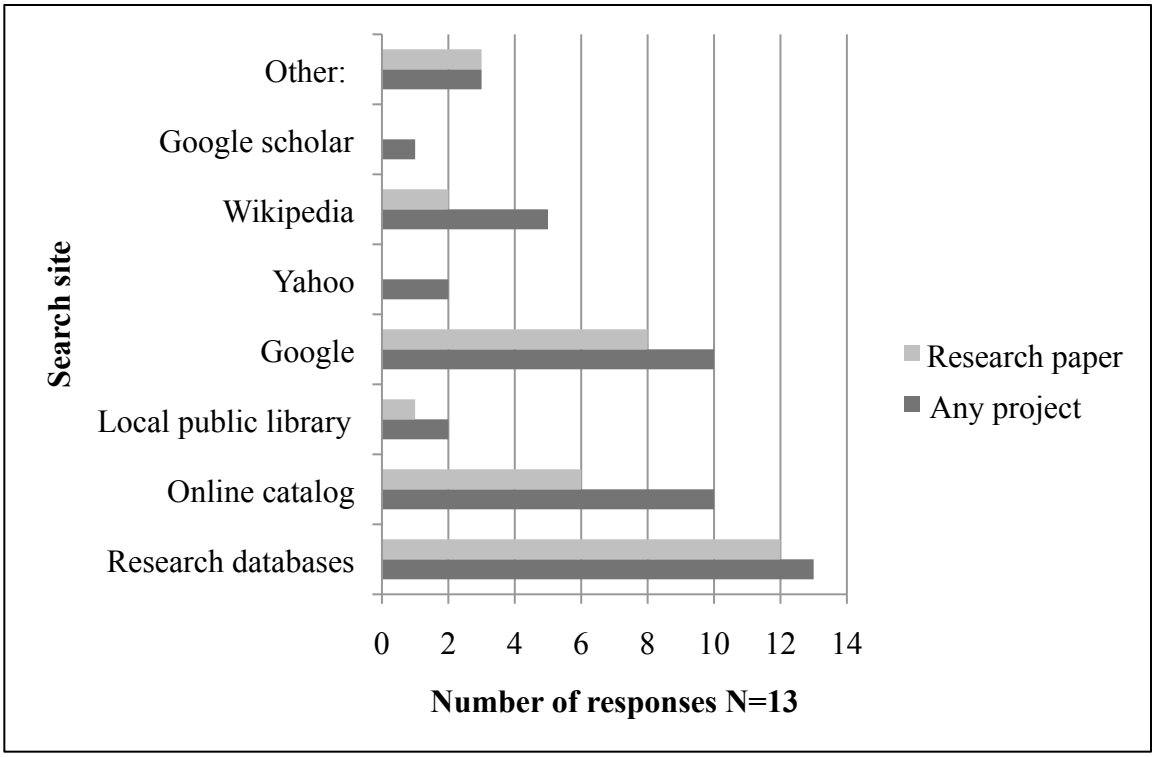

Figure 1. Search sites students reported using during the search process.

The library. In the questionnaires, nine respondents indicated they generally initiated searches in the college library's online catalog and research databases, while only five of them selected Google. This finding was confirmed in the interviews, which also revealed that all but one participant reported physically going to the library. Their library searches involved three methods: searching databases, searching the catalog, and/or asking a librarian.

Searching databases. Participants reported searching two different databases each. The databases they used depended on their disciplines: JSTOR for literature students, SPORTDiscus for sports science students, and EBSCO for management students. Students reported selecting databases they had used successfully in the past and that they knew would yield good results.

- I guess that's where we get [our information] since I was a freshman in sport management, that's where they [professors] told us to go, like, they pay for it and you know that's . . .j where we should go. (Michael)
- I really trust JSTOR. I think it's easy to find stuff on JSTOR. The others tend to, like, branch off into more specific, um, subjects, like you might pick one not knowing it's psychology and then all you can find is information on psychology. I'm not a psychologist so it doesn't always make sense to me. So, I had one of my English professors, freshman or sophomore year, tell me JSTOR was good and I've kind of always used it since. (Holly)

Students avoided searching the generic databases they might typically learn about in first-year library workshops. Their database choices suggested that they relied on prior experience in their major field, and they showed awareness of discipline-based resources.

Searching the online catalog. Four students enrolled in the business course, Roxane, Jimmy, Monique and Ricky, said they started their searches looking for books. The latter three reported conducting shelf searches.

Asking librarians. In contrast with information literacy research that suggested that students turn to library staff as a last resort, six participants in this study reported calling on the library staff for help with searches. Two students went to the library's front desk, bypassing the catalog search, opting instead to ask someone to identify books for them and direct them to the appropriate bookshelf. They reported doing so because they did not know where to start with their search. Ricky, for instance, asked a librarian where he could find some books because he "didn't' want to just do it by [himself] because it might as well go all day." Four students—Christina, Crystal, Michael, and Richard, all

enrolled in the sports science seminar—attended a 30-minute library session set up by their instructor and conducted by a librarian. It was to this librarian that they turned as a resource not only for their information-seeking needs, but also for advice on topic selection and on planning the draft of their literature review, as I will describe later in this chapter.

- I asked the librarian where I could find some books about my research topic and she told me where I could find it and I saw some books that I like, the titles were interesting and I picked them up. (Ricky)
- Doctor M. told us to go to the library that we're in right now, and then [the librarian] showed us how to work the research databases. . . . Even though that was a senior-level class and most of us did use the research database before but, um, you know, it never hurts to be reminded. (Richard)
- I came to the library and [the librarian] helped, like, with the research and which research databases would have most of the information on that topic. Which was I think was SPORTDiscus, because it was a sports-related topic. . . . She just gave us a list of research databases that would have our topic in it. (Crystal)

Generally, participants' accounts suggested that they felt the librarians were not only good resources for their academic research, but had also contributed to their own development as researchers, a point one student made when reflecting on her research experience over her college career:

> I think since I've gotten help through the librarians here—I'm a lot better at researching now. I know what it is, like, you have to use keywords and, you know, try to not make it so vague and bring it down. I think I've gotten a little

better now that I'm a senior. I know how to work around the research part. (Christina)

The way these students talked about the librarian suggested that they saw her as an authority and valued her expertise.

The Internet. Another knowledge site some students said they used for their research was the Internet, although getting the whole story of students' Internet experiences sometimes required extra probing or encouragement. Perhaps the student who best illustrated this was Monique. When I asked about her Internet search, she almost seemed embarrassed to say she had used Google:

CORINNE: Did you go anywhere else besides books and the database?

MONIQUE: I looked online.

CORINNE: Okay. Where did you look online?

MONIQUE: I searched Google. *(uneasy laughter)* Yeah.

CORINNE: You hesitated. Tell me about that, why?

MONIQUE: I don't know. It was like, I think some people think that you go on Google and just type in things. Some of the stuff that pop up [sic] is not really good source material. So, you really have to go and look and then make sure that they are good sources before you try to use them.

In all, six students—fewer than half of the participants—said they conducted Google searches, although a survey of participants' bibliographies later showed that eight students cited Internet sources in their final papers. In the interviews, three students reported searching Wikipedia, and three others used news websites such as CNN.com.

One student said she searched the website of the company on which she was focusing her paper.

Generally, students reported searching the Internet with one of three goals in mind: finding topic ideas, finding background information on their topic, or confirming knowledge. Samantha described using Wikipedia to identify potential topics and search links to other sources. Lily explained that she used Google "to see if there's anything else out there." She also used Wikipedia to get background information on her topic and to make sure she remembered Greek myths she wanted to use in her mythology paper correctly. However, she said she did not use these sources in her paper. Fellow student Matthew started his search for a topic on the Internet, reading through board postings.

Just like with library resources, students' prior experiences were instrumental in their decision to search Google. Several said they chose Google because they were familiar with this search engine, and felt it was a good tool. As Ricky simply put it: "I went to Google first. Because Google . . . never let me down. It never let me down so far." Samantha also started with Google because, in her words, "Google is the most easiest [sic] to use. . . . You just put in whatever you're looking for . . . then hit go."

Prior experience was also a factor in decisions *not* to use an Internet resource. For instance, Matthew said his decision not to use Wikipedia was grounded in his own experience:

> I don't like Wikipedia. And people can argue with me but what I learned about Wikipedia was that I've actually written three pages on Wikipedia not as in I wrote paper [sic], as in I can go into Wikipedia and make my own page and I know that 'cause I've done it before. . . . And I saw someone who literally had

> something wrong in their Wikipedia and I fixed it. And that unnerves me especially when I'm trying to write a paper at junior level of college, so. . . . Now, I know not to use Wikipedia. (Matthew)

Search Methods

Students' accounts of their searches showed that they relied on simple methods, a finding consistent with the research presented in Chapter Two. Answers to the questionnaires suggested that participants relied on superficial criteria—criteria that required neither reading a source nor having prior knowledge in the subject area—to identify good sources. In questionnaire 1, when asked to rank a list of eleven source selection criteria they generally used, over 60% of students ranked "The title used my keyword/ topic" as their top criterion. Coming in second, cited by 30% of respondents, was "It was peer-reviewed" (figure 2). Answers to the same question in questionnaire 2 suggested these criteria were also those they used when looking for sources for the paper in the study (Figure 3).

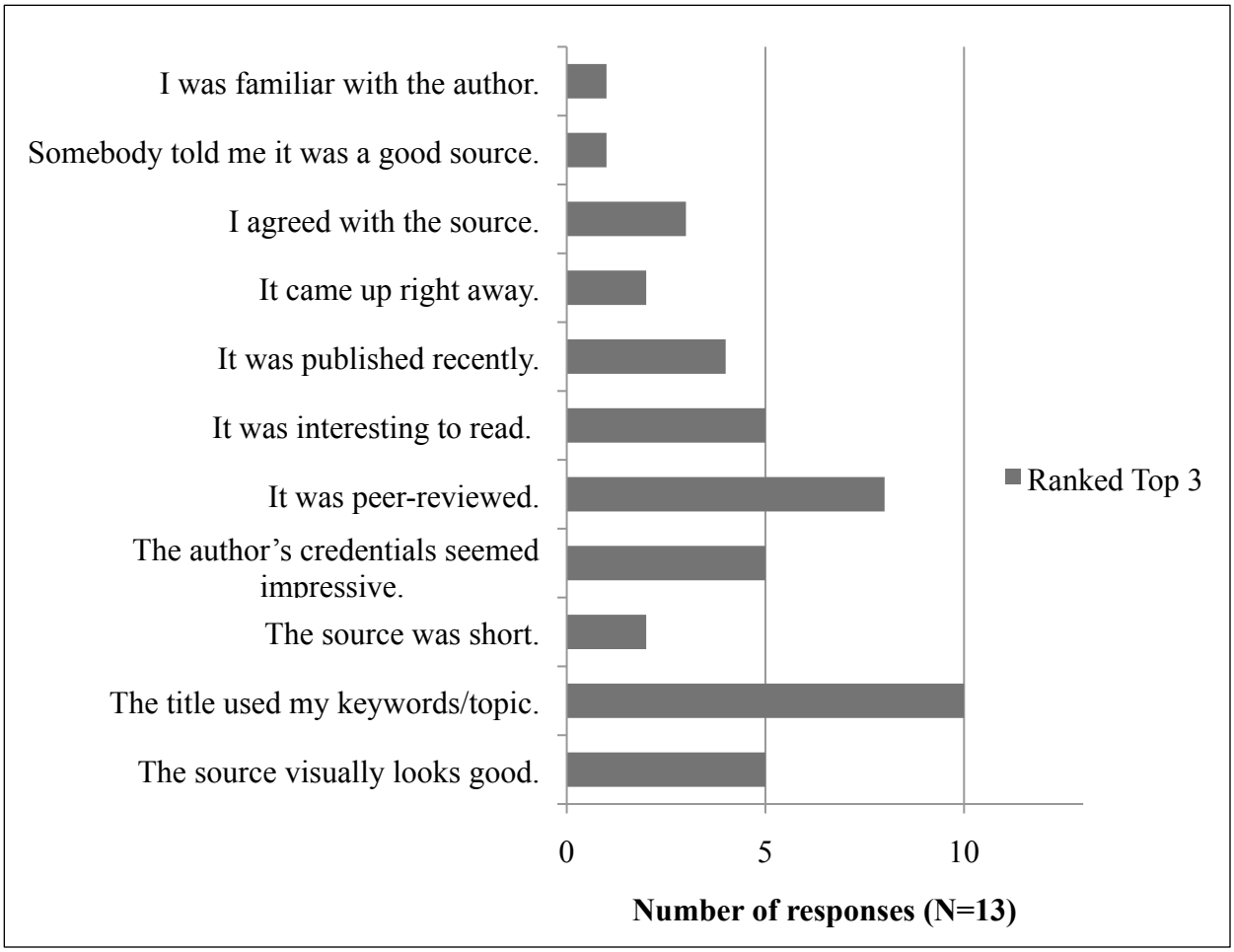

Figure 2. Top source selection criteria ranked—questionnaire 1.

The interviews confirmed the findings from the questionnaires. Students reported conducting simple searches with their topics as keywords. There were no accounts of Boolean searches. They also described using visual markers and search tools to determine the relevance of sources to their topic. These markers and tools included

- highlighted keywords in titles and abstracts,
- source length (to meet paper length requirement),
- source's publication date (to ensure currency),
- the organizational layout of a source,
- peer-reviewed limiters, and

- full-text limiters.

Two students, Jimmy and Richard, also considered the ranking of a source in the search results as an indicator that a source was good, noting that good sources often came early in the results list.

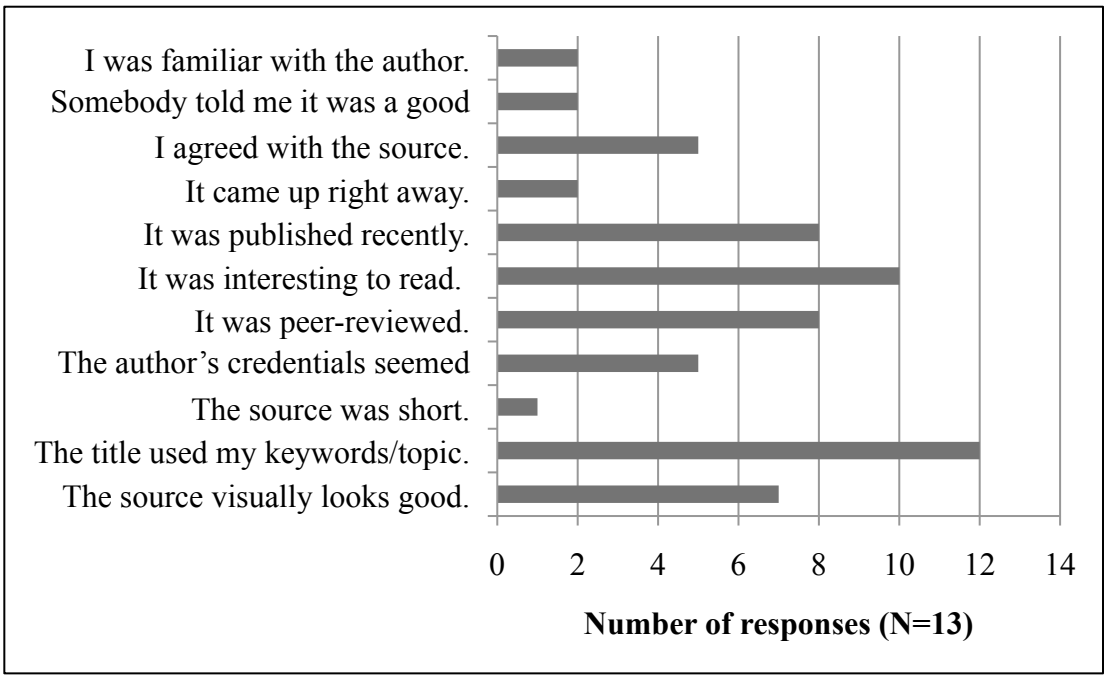

Figure 3. Source selection criteria for the research paper—questionnaire 2.

The general strategies described here were unsophisticated. They suggested that students relied on search skills and knowledge they would have acquired in their first year of college or before. There was no evidence that students had added more advanced strategies to their repertoire, such as using a citation trail or asking their professors for the names of experts in their topic areas. The only exception was the fact that students searched databases relevant to their fields rather than general databases. However, their methods were in part motivated by efficiency, choosing resources that would yield the most results the fastest.

Knowing Whom to Trust: Evaluating Sources

One of the questions I asked participants in the interviews was how they determined one source was better than another, or, in other words, how they knew they could trust a source. Their responses fell into three main categories: personal concerns, credibility concerns, and truth conceptualization concerns.

Personal Concerns

Participants' descriptions of the criteria they used to select sources indicated that they looked primarily for sources that fit into their belief systems and what *they* wanted to say in their papers. Thus, they generally cited four main personal reasons for selecting a source: its match with their worldviews, its match with their experiences, its readability, and its usefulness for understanding the topic. I describe each briefly below.

Match with personal worldviews. Students' descriptions of good sources and their best sources showed that worldviews influenced source selection. Six students said that they tended to select sources that they agreed with or that matched their beliefs (Richard, Jimmy, Lily, Ricky, John, Matthew). Jimmy, for instance, said he chose his best source because "it matched my ethical issues." When asked if he had come across any surprising information during his research, John said he hadn't, adding, "I went with what I was looking for." Sometimes, students' preference for sources that matched their beliefs was woven into the drafting process. Several participants said that they looked for sources that fit what they wanted their papers to say. Upon deciding on their topic, these participants had created an outline, which they subsequently used to guide their search strategies. Thus, they looked for sources they deemed relevant to their papers; i.e., that not only matched their topics, but also matched what they wanted to say in their papers

prior to conducting research. Lily described her best source in a similar way, noting that she had selected it in part because "it had organized [sic] in different ideas that correlated with what I was trying to come up with." Richard recalled selecting four sources that "nailed what I wanted to start [his] paper with." Of her best source, Crystal said it "hit on the very aspect that I was trying to get at . . . about how homosexuals are discriminated against and harassed constantly just because of their lifestyle." Generally, students established the fit of sources for their papers by reading a source's abstract, skimming through a table of contents, or looking at the occurrence of one's highlighted keywords in the source.

Match with personal experiences. Students were also drawn to sources that matched their own experiences or interests. Describing his process for finding good sources for his paper on discrimination in sports, Michael said one of his criteria was that he "[could] relate to [the source]." For him, good sources were not only sources he agreed with, or that were, in his words, "true"; they were sources that provided information confirmed by his own observations. He reported using a source on racial stacking in the NFL because the statistics it presented resonated with his own observations.

Sometimes, the connection to prior experience was not obvious. For instance, Lily recalled choosing her best source, a specialized encyclopedia, in part because its authors "had gone across the entire world and they also lived in Oxford." A few minutes later, she confided that she too had "actually been to Oxford and there is [sic] a lot of universities around there and a lot of ways to get information if you need it." Her trust in

this source was based on the connection she felt for the place from which the authors came.

Finally, two accounts suggested that emotion may have played a part in some students' source selections. Both Jimmy and Crystal chose sources that told stories that moved them. Jimmy recalled how his best source in his paper about the banking crisis described "how people actually didn't care . . . they were just trying to get it off their hands into other dudes' hands even if it was unethical." Crystal's best source also dealt with injustice:

> It gives a, like, a story of a student athlete who was discriminated . . . who was assumed to be a homophobic [sic] by her coach and was discriminated with playing time and how she was eventually kicked off the team and how she went to, sort of like a law suit against it because she was discriminated for this reason and no other reason, because her coach was a homophobic. (Crystal)

Readability. Another criterion students cited for selecting a source was whether they understood it or not. They preferred sources that were easy to read and comprehend. Holly noted she avoided databases outside her field because their articles were likely "not to make sense" to her. For Matthew, Ricky, and Samantha, readability was the mark of a good source. It was not clear, however, how much of a source students read to determine its readability. Two students, for instance, reported looking at the organization of a source to determine whether they could understand it (Lily and Samantha). Four students looked at abstracts to assess readability, a method that might be questionable if the abstract was not written by its author, unless their goal was to assess the source's content (Monique, Richard, John, and Crystal).

Breadth of coverage. Finally, several students said that a source's breadth of coverage of a topic determined its worth. The broader the coverage, the better. Lily, for example, reported being very impressed by the level of research featured in her best source. Other content that participants valued in sources included a variety of opinions, counterarguments, and diverging viewpoints, even as they expressed their preferences for sources that matched their beliefs. A good source, they said, should fulfill four main functions: (1) provide an overview of the issue they were researching; (2) define the issue they were researching; (3) explain its key points; and (4) support their points with specific examples. One person, Holly, also reported looking for sources to which she could respond.

Not surprisingly, turning-point sources usually met these criteria, and often inspired the organizational structure of final papers. For example, Michael's decision to divide his paper on multiculturalism into sections about gender, race, and gender-responsible leadership came from his turning-point source. For her part, Lily shared that her best source "helped [her] at the beginning to focus on the topic and it also helped [her] during the process by giving [her] something to relate back to." Samantha said of her best source: "I mostly used it because it had everything, like, bullet pointed, I guess you could say, laid out for how I was going to set up mine once I figured out what I was going to do with mine."

Credibility: Not All Sources Are Equal

As they described how they determined that a source was good, participants brought up the matter of credibility. Although I never used the term credibility in my interview questions, six students used the word or a version of it when they discussed

how to identify a good source. In fact, whether they named it or merely described it, the notion of credibility was brought up as a feature of a good source in all interviews, confirming Rieh and Hilligoss's (2008) claim that students do care about source credibility.

For students, a credible source was "trustworthy," "truth," "legit," "believable," or "valid." How they determined the credibility of a source was sometimes intuitive. Samantha, for instance, said that a way to find a good source was "if it looks good. It looked like it could be credible." Holly, for her part, said that sometimes, if the author "sounds good," that's good enough. Michael and Ricky reported that they could "feel" a source was good. Richard, Lily, and Matthew said they could tell that a source was good by looking at it, a point Samantha also made when she said, "just reading it, if it seems like the person knows what they're talking about." Students also said the credibility of a source could be assessed by examining its author's credentials, its evidence, its style, or by comparing it with other sources.

Assessing author credentials. Students' descriptions of how to determine the credibility of a source privileged ethos, as they located credibility in the source's author. Eleven of 13 participants cited the credibility of the author as one way to assess the worth of a source. Five of them said that an author's credibility could be determined by his or her credentials, which they assessed through one or more of the following: authors' disciplinary fields, professional experiences, educational backgrounds, university affiliations, and book publications.

- I looked at the . . . author. Many times, they were editors and they've been working in that field for a long time or something like that. (Monique)

- First I have to make sure that the author is credible, like where is his background and everything. Like I don't want him to talk about business when he has a major in… I don't know, science or something. (Ricky)
- These are actually . . . people in our field that have gone out and done a study in it . . . but if they come from big universities and have a team and they're going out and studying it . . . that is an actual source to use. (Christina)
- It has to be, like, a well-known author.… The paper that I went off of . . . she got an award for her research on this so that can be [a credible] one. (Michael)

One marker of credibility that surprised me was a student's perception of a source's intelligence, which first came up in relation to people students had turned to for help with their topic selection. When Roxane decided to ask her brother-in-law for advice, a moment that she said was a turning point in her research, she recalled going to him because "he's brilliant. He's really smart and he's well aware of what's going on politically and economically." Similarly, Richard described turning to his father for help because "he is smart." Another student who brought up intelligence was Jimmy. He explained his decision to quote his professor with a simple "I actually think that Mr. L. is very intelligent." In all three of these cases, intelligence was presented to justify the credibility of the source, as well as perhaps that of the students who selected them. Possibly, though, students may have wanted to convey their own admiration for these people.

When asked how they determined the credentials of an author, some students reported Googling authors' names or using the "About us" tab on websites. Jimmy was one of these students who said he researched authors to make sure they were

professionals. He also admitted that it was difficult at times to find information about an author, and that he generally gave up after five minutes or so if he had not found anything. Another student talked about the fact that the credibility of an author could sometimes be hard to assess when the source talked about material the reader was unfamiliar with. He explained:

> If I don't know anything about Women's Literature 1703 in France, then I'm probably gonna have to go and pick up that book because I don't know it, and I'd probably use the book if it's a good source but I don't know anything about it, so I'm gonna have to rely on what this author says whether I like it or not. (Matthew)

Finally, another student noted that while credentials alone did not guarantee credibility, they were nevertheless helpful: "It's not all about credentials, but they kind of help sort out who had a better reasoning" (Holly).

Although participants described how to assess author credentials, it was not clear whether they actually had checked credentials during their searches, aside perhaps from Jimmy. It seemed that for most part, the mention of a Ph.D. was enough to engender trust in the expertise of an author. "If it is Doctor da-ta-da, and it has a Ph.D., then that's usually a good opinion," Roxane said, conveying a belief voiced by several of her peers.

Assessing evidence. In questionnaire 1, on the matter of whether they trusted a source, participants identified evidence as a key factor in their source selection. Evidence was also the most frequent reason they cited for choosing their *best* sources, along with whether the source came from a credible resource and whether its content was consistent with other sources (figure 4).

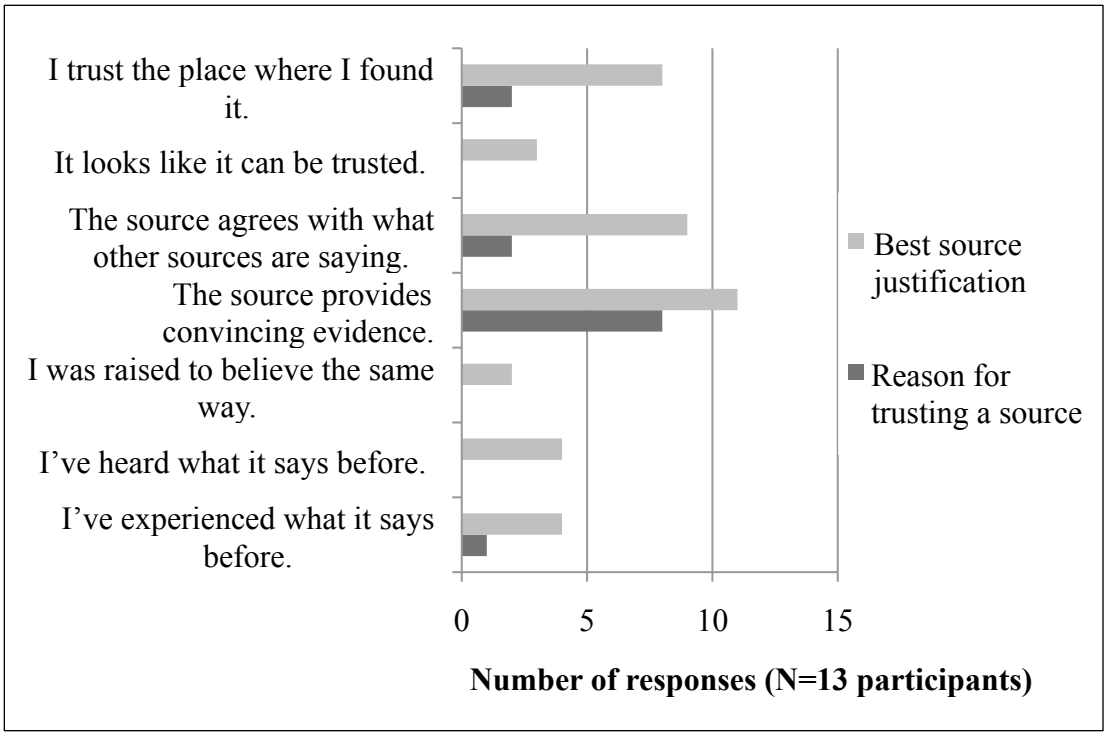

Figure 4. Criteria cited for trusting a source and for identifying a best source.

In the interviews, students described credible sources as those that had good evidence. In evaluating the evidence of their sources, students often looked for confirmation of an author's expertise, which they sometimes found in the fact that the author had actually conducted a study on his or her topic, or they looked for data they could compare to their own experiences. Christina reported looking for sources that presented primary research. Michael said he evaluated whether the evidence authors used to support their points was valid to him by looking for statistical information. Crystal trusted sources that included empirical studies.

Cross-referencing. Another way to assess credibility was to compare sources. Michael recalled that after finding his turning-point source, he noticed that other sources "backed up the first one . . . show[ing] that they were . . . doing the same thing that the first article was doing." He later shared that he probably would not have used a source

that did not agree with his turning-point source. Samantha recalled that most sources she found after her turning-point source had "the same type of information that it did." For Monique, comparing sources was a way to evaluate how knowledgeable an author was about a topic: "When you go to more than one source that are, at least, have a similar thing like they'll have a good grip on what is going on [sic]. I usually compare it to something else that I've already looked at." (Monique)

Participants' reliance on turning-point sources to assess the credibility of other sources is worth noting because the turning-point source played an important role in setting boundaries for students' information needs. Yet turning-point sources were generally found very early during the search process, presumably before students had much knowledge of their topics.

Assessing look and style. Finally, several students reported looking at the presentation and writing style of a source to determine its credibility. They dismissed sources that were visually unappealing, included too much or too little numerical data, and looked difficult to navigate. One student talked about the importance of a source's style fitting his own style.

- It has to look very professional. It can't look all over the place. It has to be structured where it's presentable and that's about it for a website that I trust. (Ricky)
- Some of the sources . . . had a big body part and then you get to the end and it had, like, one or two sentences in the discussion or, like, one or two in the method. . . . I guess that would be the most reason [sic] why I didn't pick. Visually, I would click

through page to page and if there was too much diagrams and things like that [sic], then I wouldn't use it because I'm not writing a science paper. (Richard)

- Step one when I'm looking for a good source is if I have to go over about eighty percent of it to find what I am looking for, it's probably not a good source. . . . I always like picking articles and stuff based off how I write because if someone's reading my paper and they, they're, they've gotten pretty, pretty lax to how I write and how I use my words and grammar and they hit the source or the exact quote and the author that used, like, mechanics that I don't use, is like hitting a road block and it's changing the speed and the reading, and it gets obnoxious. (Matthew)

Students' accounts suggested that they believed both source credibility and message credibility should be considered when evaluating sources. However, their consideration of the message was narrow and focused on their own needs for efficiency and readability. They did not describe, for instance, the use of academic language, the description of methods, or the inclusion of a bibliography as markers of source credibility.

The special case of Internet sources. Few participants talked about assessing the credibility of print sources. However, the matter of credibility was brought up by almost everyone who talked about searching the Internet. Generally, participants were careful to indicate they knew that Internet information was not always reliable, and some advised against searching the Internet, as did Michael:

> I try to stay away from like the, like go on to Google. . . . I've heard people say, you know, only 10% of everything that's online is true so I wouldn't just go to Google and just type something in and click on the first article that I see and I

> read that, put it in my paper because nine times out of ten, that could be wrong and you don't know who's right there really. (Michael)

Some suggested not using specific Internet sources such as Wikipedia, whose content, they warned, could be created by anyone and thus lacked credibility (Ricky, Crystal, John, and Matthew). Yet others recommended being selective and checking the credibility of Internet sources, as did Ricky:

> But the thing about Google is, this might always be the first Internet website that you see. You know, you have to keep skimming down until you see something that's related to your topic. . . . Because people make the mistake of always looking at the first one and then taking it when you have to look and do your research on it. (Ricky)

Although participants described ways to assess the credibility of sources, it was not obvious that they actually used these strategies in their searches. Instead, their accounts suggested that they looked for sources they thought were already credible, as I now explain.

Conferred Credibility

As the paper profile will show later in this chapter, participants did not establish the authority of their sources in their papers. This was most obvious in the attributive tags they used to introduce sources in their papers, which provided little information about authors beyond their names and, occasionally, the titles of their works. This was somewhat surprising, considering the emphasis students had placed on author credibility, including credentials and expertise, in their interviews. However, what the interviews also revealed was that participants relied on sources they felt had implied credibility—

sources credible by the virtue of their provenance and nature. For students, identifying sources whose credibility was "conferred," a term I borrow from Metzger and Flanigan (2008), negated the need to worry about source credibility. Participants assumed the credibility of sources based on three beliefs, which I describe below.

"Peer-reviewed" means credible. Students saw the label "peer-reviewed" as a marker of credibility and conducted searches for these sources only. Most students reported that this credibility marker was an intrinsic part of their search strategies, as I discussed earlier. Participants' accounts suggested that they believed "peer-reviewed" was a guarantee that someone had checked the credibility of the source, and thus implied they did not have to worry about it.

Students seemed unsure who conferred credibility to peer-reviewed sources. For Richard, it was "professionals" who "approved" these sources, making sure that "there's no . . . slack, if you will." Matthew also believed that peer-reviewed sources had received some seal of approval, which he called "accreditation." This seal meant that the peer-reviewed sources were "from journals or actual books, interviews. Something that pretty much excluded all the blogs, websites, stuff that anyone can write" (Matthew).

Other students believed that peer-reviewed meant that the source had been written by authors who had conducted primary research. Christina, for example, believed that the authors of peer-reviewed sources "go out and study and then they do, like, a method and then they have, like, an experiment." Michael's definition supported a similar view but also articulated the concept of "peer-reviewed" in terms of what he saw as teacher expectations: "the people that write them, like, they do the research and I guess [professors] can trust in them and they know that it's . . . good because it comes from a

journal that they go off of to teach." Michael's definition related his trust in peer-reviewed sources to his professors' trust in the same.

Library sources are credible. Participants talked about searching the library because they believed it would only provide credible sources. This was best conveyed in Monique's statement that "library resources you can trust *obviously*" (emphasis mine). The primary site participants cited for finding credible sources were the library's research databases, which they said they would recommend to anyone looking for good sources. Their trust in databases seemed grounded in the belief that databases guaranteed expertise. This was the case for Christina, who said she would recommend SPORTDiscus to students doing research in a sport management course because all its articles were sports-related and written by experts. Using this resource, she said, "gives you more of a reassurance." Richard expressed a similar belief: "The research databases provided by the colleges are done by professionals and I think that they are checked out before they're used. . . . So, like, I feel like I have a little more trust for the information that I'm being provided."

Print sources are credible. Listening to participants describe what sources they were looking for, it became obvious that they thought some types of sources were better than others. The most credible sources for students in this study were print materials, especially books and journal articles.

Books. Earlier in the chapter, I described students' accounts of searching the library catalog. I had initially been surprised to see them turn to books because my own experience teaching research was that students were often intimidated by the length of books and the prospect of going to the library to get them. However, as they described

their beliefs about what made a good source, it became obvious that print materials, books especially, were still worth their weight in gold to them where credibility was concerned.

Several participants believed books were credible sources by default. For them, the credibility of books rested in the fact that they were published. Monique conveyed this belief when she said, "I think that all books are credible, because they have to go through a whole process. Editors, a whole bunch of other things before they get published." Ricky's account was similar to Monique's. For him, what was in a book, especially in the library, was credible "because it is published." Matthew, on the other hand, offered a more nuanced endorsement of books, one that relied on his own knowledge of publishers—he was a media major—and perhaps a belief that large publishers are more likely to produce credible books:

> [W]hen I look at the first page and I see who printed the book, we're seeing like Oxford or Britannica or one of the major hardcore conglomerates for media and writing, then yes. If it's some little back alley publisher then it would be iffy on whether I'd use it or not. (Matthew)

One kind of books that many participants mentioned using as a source in their final papers was their course textbook. In some cases, they even cited their textbooks as their best source or as their turning-point source (Lily, Samantha, Jimmy, Michael, Crystal). What students fell short of saying, but that was suggested by the trust and respect they felt for their professors, was that their textbooks were credible because their professors had selected them.

Journal articles. Another type of source whose credibility students trusted was journal articles. Their trust in these sources was grounded in three reasons, two of which I have already described. First, the journal articles students cited as credible were issued from databases. Second, they were peer-reviewed. The third reason, illustrated earlier in the section about peer-reviewed sources, was that journal articles were valued by their instructors.

Participants' reliance on sources with conferred credibility was consistent with their concern for efficiency. By using sources that were peer-reviewed and came from trusted sites, students may have seen no need to further establish their credibility for their instructors, who had directed them to these source types and knowledge sites in the first place. This confirmed Rieh & Hilligoss's (2008) claim, cited in Chapter Two, that "concerns about information credibility are incorporated into [students'] existing information-seeking strategies" (p. 63). It also suggested that students did not see establishing source authority as a rhetorical move.

Believing or Not: Truth in Sources

Selecting sources involves making a judgment about whether what the source discusses is believable or not. In Chapter Two, I presented a theory positing that how one makes judgments about issues with no set solution, such as selecting one out of possibly hundreds of sources, is affected by one's conceptualization of truth (King & Kitchener, 1994). During the interviews, I asked students to talk about how they determined that a source was "true." Their accounts suggested that they had four different approaches for deciding that information they read was true.

Truth is determined by one's experience. Three students described using their own experiences and observations to determine the veracity of their sources. One of them, for instance, stated, "In my opinion, a lot of . . . what I researched was true and I've seen it happen" (John). For these students, being able to connect what they read to what they had seen or experienced was important. They selected sources that matched their experiences.

- [I]n one of those sources that I use, it was about the NFL and racial stacking, I'm looking at the statistics from that time . . . there was 90% black athletes and it might have been 8% white and 2% of the other. I'm looking at the NFL from last year, I could only name you one white running back so it holds true. And look at quarterbacks . . . you can name all the black quarterbacks in the league on one hand so that holds true. (Michael)
- Some of the stuff I've read, about, like, how people treat them once they make their status known, I've seen it personally, how some people act when they find out somebody's homosexual and how their actions towards them change and what I read in some of the sources, well this is true because I've seen people change their attitude toward a certain person once they find this out. (Crystal)

Truth resides in expertise. One of the students who used her own experiences to determine whether to believe sources, Crystal, also talked about the expertise of sources. She was not alone. Three other students said they believed that truth resided in expertise. For them, using sources written by professionals, including their professors, was important. They also favored sources that included primary research and sources they

thought came from trusted resources. They also trusted facts, especially if they came from an empirical study.

- [I know something is true] Just by, like, I guess the tests that they do in the articles, like the projects they do and the results that come from the test or studies, I guess. (Crystal)
- I feel like the teacher was able to really explain things that we had questions on. It really helped me in my paper because it gave me a better understanding of how the financial crisis hindered people. (Monique)
- [The databases] pull from somebody that was a professional because you know they cited theirs just like I cited mine and . . . it all comes back to the trust of the research database that they wouldn't throw anything in there, put anything in there that wasn't a hundred percent factual and, and proven. (Richard)

Truth is relative. Two students described truth as relative. For Christina, truth was elusive, especially in the context of a research paper.

> Because as soon as you think you got all the information, as soon as you think that you got a pinpoint on this the answer to the question, it's never the answer to the question. It's like . . . you can always expand on research. There's not going to be a hundred percent in any day that it's going to be right all the time. (Christina)

Christina's relativism was reflected in her account of what she hoped her audience would get from her paper. Her original purpose had been to prove her professor wrong about her topic, but after conducting research, she was unable to make her case. In the end, she said she just hoped to inform her audience and perhaps encourage them to "educate

themselves a little more" on her topic. For this, she relied on scholarly sources, suggesting that she too valued expert sources.

Matthew presented a different view on the relativity of truth. For him, because facts could be interpreted differently by different people at different times, truth was dependent on the situational context.

> Well, a book written then [1911] saying well, you know here's the facts. This is how the United States is. I can't argue with that 'cause that's how it was. If I write that book in my paper today, I can say well, here's how it was. Here's the facts. I can't argue that but the ideas were wrong. The segregation was wrong. All the facts then are no longer valid in today's society so therefore they are still wrong. (Matthew)

Matthew's source selections favored opinion-based sources, with which he felt it was easier to disagree. In his paper, he relied on popular sources more than on scholarly sources. His voice was obvious throughout his paper, as he used sources to elaborate and favored his experiences and opinions over those of experts. This last strategy could have been the result of what he described as his felt lack of authority in the subject area, which was outside of his major.

Truth is socially constructed. One student described truth as socially constructed. Holly's views on truth made room for her own beliefs and experiences: "I understand that my truth is not somebody else's truth but that doesn't make it any less true" (Holly). While Holly valued expertise, she also recognized that in some situations, her ability to judge what someone else said was limited by her own experiences.

> Some of it, you do have to take on faith as far as the source goes, like, "Okay. Well, this guy is a doctor and he got this published and it sounds good. Do I know if they really found this in Greece? No and I'm not gonna know because I'm broke. I can't fly to Greece." So, I'm gonna have to take it on faith that they found this thing and that's what it was used for. A lot of what they determine about artifacts and things like that are, are guesswork. They're not sure, and we have to take that on faith too that they got it right. So, it's not all about credentials, but they kind of help sort out who had a better reasoning. (Holly)

Holly described truth as complex. It required judgment about the credibility of others and their work that drew on one's prior knowledge, experiences, and situational context, as well as on one's ability to reason. Thus, the way she used sources to create new meaning hinged on engaging in a conversation with her sources and a willingness to examine her own beliefs:

> I've always kind of felt that magic is religious in and of itself because magic today is associated with religion. . . . Stark, actually made the point that magic has not always been that way. That it wasn't always associated with religion and it's sort of taken that shape. So, at first when I read that I was like, "What are you talking about? That's not true. Magic is religious" and then I kind of had to realize that, yes, it wasn't, for then, it is now. . . . I guess the more he went on, the more I had to admit that what I see now is not what a researcher would see, like, I'm kind of biased. I have my own experiences with that already but from a scholarly perspective, yes, magic is, in itself, is not religious. (Holly)

For Holly, truth and knowledge were socially constructed. They entailed conversations with others. They also entailed being open to new learning:

> [The author] would just make a point like, "Well, magic wasn't religious and it isn't now and this and this and this" and I was like, "Wait, but I guess I can see what you're saying. I would just have to think through it." He got me to think, is the big thing. (Holly)

Not surprisingly, Holly's use of sources was dialogical and made room for her voice and her own expertise:

> I read a source and I'll pick out points and things I want to use but then as I write, I don't always stick to those points. Sometimes I feel like what I'm writing is better than those points and so it doesn't always incorporate, and I might have to go back and find another source or I might have to rework it into another part of the paper. (Holly)

Her writing favored rhetorical moves that allowed her to raise questions about what others had said and to elaborate. While it drew from scholarly sources, it incorporated fewer in-text citations and a greater number of references to her own knowledge or experiences compared to the writing of students who used a similar number of sources in the business and sports science seminar.

Finally, Holly claimed some authority on her subject, and her account suggested that she trusted her own ability to determine the truth of a source. But it also showed that she saw her professor as the final authority on her work. Throughout her interview, she justified several of her information-seeking decisions and rhetorical moves by referring to

her professor's authority. Ultimately, her own sense of authority was superseded by her professor's.

Participants as knowers. For Holly, knowing meant engaging with others' ideas, raising questions, and making room for oneself. For most participants, however, knowledge seemed to be a static construct. If they needed to know something, they turned to experts. For some, knowing meant measuring one's experiences against what experts had said. They valued facts and statistics in sources and used them to validate their experiences and beliefs. In his final paper, Michael alternated sources and information drawn from his observations to support what his sources said. Of his paper, he concluded, "Everything I wrote in this paper is backed up and if you look at sports as a whole, you see it's true so there's nothing wrong with telling the truth" (Michael). In these two situations, students appeared to position themselves more as finders of meaning than as creators of new meaning. This finding was confirmed through the analysis of participants' actual use of sources and their justification of it, to which I now turn.

Writing with/from Sources

In this section, I first present the results of the paper analysis and then present the beliefs and strategies that guided use of sources in the papers, as provided by the participants in their interviews.

Profile of the Final Papers

Thirteen papers were submitted. Five were literature reviews, and the remaining eight researched essays. Papers ranged from 9 to 13 pages, except for Ricky's six-page paper, which by his own account was unfinished. The average paper length was 10 pages

or 2,600 words (Table 6). All included a bibliography, which listed eight sources on average.

Table 6.

Paper Features

	LENGTH		NUMBER OF SOURCES
	Word count	Number of pages	
Christina	3264	11	5
Crystal	2635	9	8
Holly	3197	12	8
Jimmy	2,017	9	8
John	2,255	9	7
Lilly	2,845	10	8
Matthew	3,073	10	6
Michael	3,819	13	7
Monique	2,363	10	11
Richard	2,800	13	11
Ricky	1,605	6	5
Roxane	1,926	9	7
Samantha	1,986	9	10

Types of sources. As a group, students overwhelmingly used print sources. All papers combined, bibliographies included 51 articles, 23 books, and 23 Internet sources. Nevertheless, the papers featured a variety of sources, which included books, print articles, interviews, reviews, pictures, films, songs, websites, and a professor's lecture. However, seven papers only listed two source types: books and articles (Table 7). This included all the literature reviews written for the sports science seminar, which had strict

source guidelines. Students enrolled in the literature course were the ones who used the greatest variety of source types, including pictures and audio sources.

Table 7.

Incidence of Source Types in Final Papers

	Books	Professor	Articles	Interview	Reviews	Pictures	Film or song	Websites
Christina	1		4					
Crystal	1		7					
Holly	4		2			2		2
Jimmy	2	1	5					2
John	1		6					
Lily	4		1			3	1	2
Matthew	1		1	1		2	1	2
Michael	1		6					
Monique	3		4					4
Richard			11					
Ricky	3							2
Roxane	2		2		2			1
Samantha			2					8
TOTAL	23	1	51	2	2	7	2	23

Authoritative vs. popular sources. When considered as a whole, the number of authoritative sources students included in their bibliographies surpassed popular sources 81 to 18 (table 6). For the purpose of this study, authoritative sources were defined as journal articles, peer-reviewed sources, books, interviews with experts in the field, governmental websites, and specialized encyclopedia and dictionaries. Popular sources were defined as sources written for a general audience and included news articles, news websites, and other websites with *.com* extensions. None of the students who submitted a

literature review included popular sources in his or her bibliography. All but one of the other students, regardless of whether they were enrolled in the business or the literature courses, used at least one popular source (table 8). The popular sources students were most likely to use included news websites and business-related websites. Some business students used sources designed for a general audience as primary sources; for example, Monique visited AIG's website to write a paper on that company's financial practices.

Table 8.

Incidence of Authoritative and Popular Sources in Participants' Papers

	PAPER TYPE	Required number of authoritative sources	AUTHORITATIVENESS OF SOURCES	
			Authoritative	Popular
Christina**	Literature review	4	5	0
Crystal	Literature review	8	8	0
John	Literature review	8	7	0
Michael	Literature review	8	7	0
Richard*	Literature review	8	11	0
Holly	Research paper	2	8	0
Jimmy	Research paper	Not quantified*	9	1
Lilly	Research paper	2	4	1
Matthew	Research paper	2	3	3
Monique	Research paper	Not quantified*	7	4
Ricky***	Research paper	Not quantified*	3	2
Roxane	Research paper	Not quantified*	3	4
Samantha	Research paper	Not quantified*	6	4

*One student said the source number requirement was eight sources but did not specify a number for scholarly sources. **Ricky submitted an unfinished draft.

In-text citations. For the purpose of this study, an in-text citation was defined as any in-text source occurrence with a parenthetical or footnote citation. A count of in-text

citations in the final papers showed that students tended to cite sources often. This was especially true for students enrolled in the business and the sports science courses, both of which emphasized the use of peer-reviewed sources. It was lowest in the papers of students enrolled in the literature course, where only two journal articles were required and the professor emphasized originality in students' writing (Table 9).

Table 9

Incidences of In-text Citations, Paraphrases and Quotations in Individual Papers

	Number of sources	Number of in-text citations	Paraphrases	Quotations
Christina	5	14	7	7
Crystal	8	17	17	0
Holly	8	12	0	10
Jimmy	9	28	22	6
John	7	17	17	0
Lily	8	6	1	2
Matthew	6	9	2	5
Michael	7	35	27	11
Monique	11	24	17	7
Richard	11	42	23	19
Ricky	5	4	1	3
Roxane	7	22	13	9
Samantha	10	31	24	7

Paraphrasing vs. quoting. I conducted a count of the occurrences of paraphrases and quotations. For my purpose, a paraphrase was identified by the presence of a citation, the absence of quotation marks, and, in some cases, the presence of an attributive tag. A quotation was identified by the presence of a citation and the use of at least one quotation

mark. Some papers included passages whose content appeared to be paraphrased, but no citation was present. These occurrences were not counted. Neither were incidences of quotations that were not attributed to any sources, such as sayings.

The majority of students both paraphrased and quoted. As a whole, however, participants paraphrased more often than they quoted. Eight out of 13 papers featured more incidences of paraphrases than quotations (Table 9). This finding was consistent with what students had described in their interviews. Crystal and John, whose papers did not include any quotations, had indicated they preferred paraphrasing sources in their interviews. Holly's account of not using paraphrasing in her writing was confirmed in her paper. There was one exception, however. Lily's paper did not reflect her account of paraphrasing more than quoting. Besides three pictures, it only included three in-text source occurrences: one paraphrase and two quotations. I wondered if perhaps she had omitted some in-text citations, especially since her bibliography listed three sources that were not cited in her essay.

Attributive tags. A count and review of attributive tags, phrases students used to introduce a paraphrase or quotation, showed that all the papers included at least one tag to introduce sources. However, Richard's paper, which contained the most in-text citations, featured the fewest tags. Tags were used with both paraphrases and quotations.

The attributive tag students used most often was "According to [author's name or source title]." The other tags students used modeled a simple pattern: author's name or source title followed by a verb. A review of the verbs individual students used to introduce sources showed that they relied on a limited number of verbs: "says" was the most frequently used. Others included "explains," "mentions," "believes," and "defines."

Tags were generally short and signaled the use of a source, rather than establishing a source's credibility or authority. This was perhaps consistent with the finding presented earlier that by selecting sources with conferred credibility, students did not see a need to re-establish the credibility of their sources in their papers.

Use of Sources and Writer Credibility

During the interviews, I asked students to explain the strategies that had guided their use of sources when they composed their papers. I now present what their accounts revealed, first about their beliefs about establishing their own credibility as writers, followed by the strategy that resulted from these beliefs.

Participants' accounts showed that they believed the use of expert evidence was a standard in academic writing. They saw use of sources not only as an expectation of academic writers, but also as a way to enhance their credibility:

- [T]he basic reason for using sources is because the professor requires it and that makes the paper more professional. (Holly)
- [The reason for using sources] is so you can have information and you cannot just go out and state your own opinion without it being backed up by a credible source. (Monique)
- [W]hen you have an academic paper, doing research helps out a lot because if you don't have the research and you're just going off of [sic] your own ideas, you're not going to have a very good paper because not everyone is gonna get your ideas. (Lily)
- [Y]ou're using the ideas of someone who's educated and they've gone to school, they've done a lot of research, they're considered experts in whatever it is that

> they talk about and, and research on, and when you can use their ideas to support your ideas, it makes it look like your ideas are educated and that you know what you're talking about. (John)

For these participants, being credible meant showing that they were knowledgeable about their topic and course content. This was the case for Samantha, who said she wanted her readers to see her: "That I understood what I was writing about." Holly's account was similar, as she stated, "That's my biggest goal in writing is that I don't want people to look at this and be like, 'Wow! She obviously doesn't know what she's talking about.'" Participants also believed that their credibility hinged on their ability to present themselves as serious writers through their use of sources. Holly, for instance, said she hoped her use of sources would make her paper look "more professional," an outcome Richard and Ricky were also seeking. Other relevant descriptions of what students hoped to achieve through their papers included looking "more educated" (John) and being "believable" (Michael).

Participants described three strategies they used to make themselves credible: using scholarly sources, paraphrasing or quoting, and using citations. I describe each below.

Scholarly sources. The best type of source one can use to be credible is scholarly sources. Considering the importance of being credible for most participants, it is perhaps not surprising that they used mostly peer-reviewed sources in their papers. As I pointed out earlier in this chapter, several students emphasized in their interviews that what they valued in these sources was the expertise of their authors. Thus, in using expert sources to

support their points, they hoped to gain some authority and establish themselves as serious writers:

- I felt that I made a point and I actually had to back it up with professional information . . . so they kinda agreed to what I was actually intending for the reader to get. (Jimmy)
- [Using sources] makes me more believable." (Michael)
- When you can use [experts'] ideas to support your ideas, it makes it look like your ideas are educated and that you know what you are talking about. (John)
- I'd try to put one source in every paragraph so it's not just completely my own. I supported my point I guess that's why. I just feel like it needs support and I'm not just making this up or saying, "This is what I believe" with no basis. (Holly)

One source students often used in their papers was their course text. I believe that beyond the fact that it was readily available and that their professors may have encouraged them to do so, they also used this source because it helped establish their credibility as knowers. It showed their professors that they understood course concepts well enough to connect them to other sources and in contexts outside the classroom. Furthermore, several students did not provide in-text citations for their textbooks. This could have been an oversight, although the incidence of citations in their papers suggested that they were generally careful to give credit to sources. One reason for not citing textbooks might be that they considered the content of their textbooks as common knowledge within the context of their courses, that they saw themselves as members of a knowledge community.

Paraphrasing vs. quoting. Students believed that their credibility was affected by how they chose to blend sources into their own prose. For some, the best way to be credible was to include quotations to support their points. They believed that using an expert's words added strength to their writing and, if well chosen, could impress an instructor.

- I would use quotes from professionals because, you know, you could be summing up a whole, summarizing a whole paragraph in your words and then you see that one quote, from one sentence from a professional and it's like, "Wow! That's, that really sums up what I'm trying to say.'" (Richard)
- [I quoted] just to show that somebody like, somebody who knew what they were talking about said this. . . . It kinda puts strength behind it I guess. (Michael)

Others chose paraphrasing over quoting to demonstrate mastery of the subject and competence as writers who understand that paraphrasing is a standard practice in academic writing:

- If I can paraphrase it, I'd rather just write it in my own words. Professors usually do not appreciate it but they like it more, because you're actually using your knowledge and your skills to rewrite what someone else has said. (Roxane)
- I tried to paraphrase more than I quoted because I feel that if you try to paraphrase more . . . you actually really understand what it was saying. (Monique)
- Mr. L. told us, "Don't use a lot of quotations and paraphrase so you can, so you can prove the understanding of your sources before you actually use them." (Jimmy)

Citations. One last strategy for making oneself credible as a serious writer, which I inferred from students' papers and their expressed desires to produce papers that looked professional, was the use of in-text citations. Richard's case perhaps is the best illustration of this point. In his interview, he talked often about professionalism and his desire to be seen as a hard-working, dedicated student whose work reflected his senior status. Richard's paper, whose length was comparable to those of his peers, by far contained the most incidences of in-text citations: 42 references to the 11 sources listed in his bibliography. I saw in his use of in-text citations an effort to emulate a common practice in the peer-reviewed materials his professor trusted and to establish himself as a serious writer.

Negotiating Voice: Students vs. Experts

In the interviews, I asked students to explain their use of sources. I wanted to find out how they negotiated their authorial agency when they composed with sources. Their accounts of how they blended sources into their own writing encompassed three themes: beliefs about research writing, rhetorical functions of sources, and writer positioning. I describe each one next.

Beliefs about research writing. Participants' accounts of why they used sources in their papers suggested that they believed that the purpose of a research paper was to present information through expert voices. John, for instance, explains that an expert is "someone who's educated and they've gone to school, they've done a lot of research, they're considered experts in whatever it is that they talk about and, and research on." For him, drawing on such experts was a way to "it makes it look like your ideas are educated and that you know what you're talking about." For Richard, expertise meant

professionalism, and he aspired to write a paper that looked professional, an aspiration that others, like Holly also shared. In any case, the belief that papers should privilege the expertise of others affected how participants positioned themselves in their papers. For some, using sources meant not including their personal opinions. Samantha and Crystal, for instance, said the following:

- Most of the teachers that I ever had said that . . . they don't want your opinion and stuff in the body of your papers so pretty much everything needs to be cited. (Samantha)
- The way [our professor] made it seem, our opinion . . . wasn't supposed to be included in the paper, per se, because it was more of a literature review, more than a research paper. (Crystal)

For Richard, writing with sources meant not overtly using his own voice, something he achieved by not only using sources written by scholars, but also by avoiding the use of first-person pronoun because "I just don't think it sounds professional," he said. This belief led most students to put the emphasis on the voices of others in their papers, which in turn left them feeling that the use of sources shadowed their voices.

Compounding the impact of this belief on their writing was students' feelings that they lacked the expertise needed to compete with their sources. This was especially true of those who did not have a prior interest or prior knowledge about the topic they had chosen. These students talked about the challenge of overcoming their lack of knowledge, especially as they made decisions about the worth of sources:

- I picked this topic three days before I started writing the paper. I'm not an expert like them so how am I gonna put it in my own words? . . . It was a struggle to both like the structure of the paper and hard to explain the articles [sic]. (Michael)
- It was . . . me against an accredited doctor who wrote this book based off his research. *(laughter)* I'm not going to win this argument. (Matthew)

Other students, such as Richard, were pragmatic about their lack of expertise, seeing it as a condition of being a learner:

> I think students sometimes have a hard time especially because they're not professionals yet, hopefully on their way to be, but during the learning process, when you're reading through, you know, in your paragraph, in your own words, with the help of your sources, it may be a good paragraph, but . . . sometimes you just can't get it out what you're really trying to say... (Richard)

Not surprisingly, students' belief that academic writing was about the voices of experts was reflected in how they described their purpose for writing the papers. Generally, participants said their purpose in writing their papers was to inform their audience. Eight participants talked about passing on information or educating readers about their topics. Crystal, for instance, said she wrote about homophobia in sports because she had friends who had experienced it. Her main goal was to bring attention to an issue she felt was "not handled in the best way . . . not being taken seriously." Lily wanted to draw others to her topic—mythical creatures—in which she had had a personal interest for years: "The paper is a fishing hook and the people are the fish and I'm hoping it'll hook somebody and they'll start getting interested in [the topic]." Other students hoped to influence the beliefs of others.

- I am trying to communicate to the reader about what happened and voicing my opinion into it and challenging the reader to make their own opinions as well. (Roxane)
- [The source] gives whoever is reading the paper a way to look back and find other ideas or other references to what I was thinking about so that you could expand on it on your own terms. (Lily)

Participants' descriptions of their purpose were consistent with their accounts of looking for sources with "information" about their topics, rather than sources presenting analyses or commentaries.

Source-use justifications. Students' beliefs that research papers should privilege the voices of experts were also enacted in their use of sources. This is most evident in the rhetorical functions they assigned to their sources, and to which I now turn.

During the interviews, participants presented a wide variety of justifications for the specific occurrences of sources in their papers. My original coding of these justifications included no fewer than 37 descriptors (appendix H). However, four justifications emerged as most important for this group. I describe them briefly below and provide one example from students' papers for each. (For additional examples, see appendix I.)

To support or illustrate a point. Eleven students cited this reason to explain their use of sources, making it the most commonly cited justification for using sources in this study. This justification was consistent with participants' beliefs that good writing was supported by expert evidence, and that good sources enhanced their credibility.

- When I'm talking about the ethics, I need evidence to back up my opinion. That's when I decide I need a source in my paragraph. (Roxane)
- I guess I just use the sources I feel are . . . needed in the paper . . . where it could get a point across or help me out, help me to explain I guess the issue more. (Crystal)
- See on page five when I was talking about the use of creatures who, whose purposes are to destroy the world, I would have had a very hard time describing the creatures in Revelation because there's four different creatures there and they all four are a little different, and I just didn't know if I wanted to spend four paragraphs, just describing these creatures. So, instead, I put the picture in so that I could continue on with what my ideas were and that one was just giving an example of a creature that I spoke of. (Lily)

This rhetorical use of sources was evident in nine papers (John, Roxane, Christina, Jimmy, Samantha, Richard, Lily, Matthew, Holly). Generally, sources serving this function were preceded by an introductory sentence. Their attributive tags, when present, tended to start with "According to," or as is the case in the example below, with "As X states/ explains" (appendix I).

> Banks became very lenient in mortgage qualifications. As Kobliner (2009) states, "All you needed was to fill out some papers, come up with a tiny down payment (or maybe none at all), and you were a homeowner. It was that simple, and it ushered in the biggest housing boom in history" (p.168). (Roxane's paper)

To define a term. Eight students said they used sources to explain or define key terms in their papers. Their decision to define a term was generally based on the fact that they were not familiar with the term themselves before conducting research:

- I wanted to introduce the term 'whiteness' and define it early in the paper. That was the main reason for putting that [quotation] there. . . . Because I've never heard of it. I didn't know if he [the reader] would have ever heard about this. (John)
- When I read through that one, I was like, "Okay, this is gonna be the first one that I'll write about because it gives a definition, it explains [my topic] before I go into all the other ones." (Michael)

The paper analyses identified this source function in six papers (Matthew, John, Monique, Christina, Jimmy, Samantha). Sources serving this function were sometimes introduced with an attributive tag that used the verbs "define" or "explain." In some papers, they were not introduced at all (see appendix I):

- Derek Collins explains in his article "Nature, Cause, and Agency in Greek Magic," that the Greek world was one "in which magic is invoked by observers as an explanation for disaster or as a hedge against failure" (19). (Holly's paper)
- The most common distinction made is between policies of integration and assimilation. Integration in this context is defined as the process whereby a minority group adapts itself to a majority society and is accorded equality of rights and treatment; while the term assimilation is used in relation to the absorption of ethnic minority and immigrant population cultures into the cultures and practices of the host society (Henry 2005). (Michael's paper)

To introduce a point or the topic. This function was cited by five students, who either quoted or paraphrased to introduce points and tended to use this technique most at the beginning of their papers.

- When I started my paper, I wanted to talk about the financial crisis and stuff, like why did it happen? And the book had a great explanation over why did it start. (Monique)

This function was difficult to identify in students' papers, in part because some students did not use attributive tags and, in some cases, did not set up paraphrases or quotations. Matthew's paper was the exception:

- VanAmberg shed some light onto the subject, "There were some mythological exceptions, of course, Athena-goddess of war; Artemis-goddess of the hunt; and the Amazon-women warriors residing somewhere to the east." (VanAmberg). I agree with him there as well. But I wonder if the stories were all female warriors how this would change our way of life. (Matthew's paper)

To bring up a point of their own. Four students indicated using sources so that they could later elaborate on what the source had said.

- [I]f you have an idea that similar to someone else's, you can use what they explained and add your own voice, paraphrase what they say, and then add in what you would come up with on that same topic. (Lily)
- I'll paraphrase when I knew that I could expand on something that they would say. . . . (Richard)

In their papers, these students often commented on what their sources had said, either to validate them or to bring up a different point. However, in some papers, like

Richard's, it was difficult to tell when the paraphrase ended and the elaboration started. Papers that were most successful with this rhetorical function used attributive tags and comments that clearly established the function the source was serving (see Appendix I).

- What Campbell was missing in his definition is the art of magick, the creative expression that is often believed to be nonexistent in what is widely considered a primitive practice. (Holly's paper)
- As Kobliner (2009) states, "All you needed was to fill out some papers, come up with a tiny down payment (or maybe none at all), and you were a homeowner. It was that simple, and it ushered in the biggest housing boom in history" (p.168). Consequently, this raises several questions: Who was supervising and regulating these loan approvals? If any, who and how were these regulations enforced? Did this regulation flexibility benefit the provider or the consumer? (Roxane's paper)

Students' heavy reliance on the first two functions, to support and to define, confirmed their belief that the purpose of research was to identify and present information and to show what one knew about a topic. How they justified source occurrences in their papers also provided insights into how they negotiated agency and how they positioned themselves in their writing. In the next section, I describe the strategies they reported using for blending the voices of their sources and their own voices.

Writer positioning. In the interviews, I asked students to describe where their voices could be heard in their papers. Their answers suggested that they negotiated a place for their voice by assuming four roles when they incorporated sources in their

writing: the roles of organizers, moderators, framers, and commentators. I describe each one below.

The Organizer. In this role, the writer privileged expert voices to the detriment of his or her own voice. As one writer put it:

> [The purpose] was to research others' professional thoughts on [the topic] and compile a lot of those different articles and summarize them and just a small discussion at the end on what I thought about each of those articles and that was really it. *It was more of, uh, a summary than, than me*. (John) (emphasis mine)

Crystal remembered editing her opinion out of her draft: "I would go back and I would re-read articles and put more of the authors', what they thought about this whole area instead of putting my own opinion, since it was a literature review." However, she later conceded that her voice was still in her paper. For Crystal and other Organizers, one's choice of sources and the way one approached a topic conveyed one's voice:

> The way [the professor] made it seem, our opinion wasn't . . . supposed to be included in the paper, per se, because it was more of a literature review more than a research paper. So basically that's where my voice is, like, how the research was, it leaned more to the female side than to the male side [of homophobia in sports] and *why* I thought it was like that. (Crystal)

The Moderator. In this role, the writers also privileged expert voices, making them the focus of their papers. However, unlike the Organizers, they allowed for their voices to be heard in sections of the paper that did not include sources. These places included the introduction (Richard) and the conclusion (Roxane, Samantha), or, in

literature reviews, the discussion section (Michael, Richard, Christina, John). Thus, for these writers, their role was to set up the argument and close it.

- [My voice is] probably in the first couple of paragraphs. . . . I do have quite a few quotes in here but that's only strictly just to . . . either nail my topic or really tie down what I'm trying to say. But . . . from the most of it, probably the first couple of paragraphs or pages. And then obviously, I mean that self-explains why the discussion is all me. I didn't pull from anything on the discussion. This last end of the paper, the discussion part was all me. (Richard)
- [My voice is] I think in the conclusion paragraph. Yeah, because usually the conclusion's where I voice my opinion, so that's definitely where . . . in the conclusion paragraph, I'm like, okay, what are we going to do now? Yes, we're talking about the problem, but we need to look ahead and not stay in the past. If you want our economy to go back to how it used to be, and be one of the leading countries, we need to do something about it. Then I provide my opinion about what is it we should do and I talked about how we need to invest more in education even though its long-term result would be more effective than creating this whole mess they did. (Roxane)
- [My voice is] in the results and discussion. . . . Mostly just because it's my thoughts on what I read instead of summarizing what someone else said. It's hard to change what someone else thinks in your writing. I mean it is what it is. Um, but when you get to talk about it and, and put your own ideas into it, then that's really where your voice is gonna be in the paper. (John)

The Framer. Another way students negotiated a place for their voices was by framing the voices of others. In this way, they felt their voices could be heard all through their papers, a point Monique's account conveyed effectively:

> I talk more in the introduction, my voice is heard after a quote or before a word or sometimes it's two quotes and then my voice. Depending on if the two sources went together. It would make sense for them to be able to hear my voice. Their voice, then my voice, then another person's voice. (Monique)

The Commentator. In this role, writers not only framed source occurrences, but they also commented on what their sources said. These comments often included validation of a point an author had made, although one student also described a more complex back-and-forth dialogue with her sources.

- I said that, according to CBS News, AIG had been paying off their debt, they have paid their twenty billion dollar asset amount. They have converted preferred stock into common stock to stay on the open market. They raised twenty billion dollars by taking one of its subsidiaries public. What I said was, "AIG is working very hard to rebuild their company and fulfilling their promise to repay taxes. Taxpayers they are trying to make more ethical decisions so society can try to have a better perception of them." I paraphrased a little bit of what was going on. What the websites said. *Then I gave my insight* of how their decision to start paying on their loans made it look better on an outside view of them. (Monique) (emphasis mine)
- [The author of my best source] both supported my point and argued against it. There were some things he said that I really agreed with and really wanted to use

> and there were others that he said that I didn't believe to be true. . . . And so I used him for that at one point where he said that there was no creative expression in magic. I was talking about art and I kind of set him up to "kill the father" and said, "Well, he says this, but I disagree and this is why." (Holly)

Although it would be convenient if each student assumed one role, their accounts revealed that some of them went back and forth between roles. For instance, John's statement that there was not much of himself in his paper initially suggested that he was an Organizer. However, later in the interview, his account matched the Moderator's characteristics. A reason for this blending of roles may come from students' difficulties with the concept of voice and/or from their views of themselves as writers. When I asked them how they wanted to be seen as writers, most were surprised by the question. Several of them, including Holly, whose writing was quite good by my estimation, simply answered, "I am not a writer."

All the papers privileged expert sources. However, it was sometimes difficult to identify students' voices in the sections where they had said it was most prominent unless they used clear markers such as "I." For instance, in the Moderators' papers, conclusions often simply recalled the main points made in the paper. The writers did not bring any new perspective or insight. Similarly, Framers' attempts to use their own voices to establish boundaries around their sources were not easy to identify in their papers; it was difficult to tell the writer's voice from that of sources (Michael, Monique, Jimmy). Most often, they paraphrased the sources again rather than elaborating on them, so that paragraphs read like long paraphrases.

Richard's paper, whose use of citations I described earlier, epitomized the belief that research writing was about expert sources. In his interview, Richard had presented himself as a charismatic, enthusiastic student with a strong sense of himself. He recounted how he had successfully negotiated modifying the format of his literature review to meet his own preference for the essay format, providing his instructor with just enough information about his plan to sway him. He also expressed his desire to produce a paper that looked professional and worthy of his senior status. Not surprisingly, Richard's paper conveyed none of his passion and personality, and read instead like a long, citation-riddled succession of paraphrases, carefully avoiding the use of first-person pronouns, which Richard found unprofessional.

Commentators' papers were the ones in which it was easiest to identify students' voices because they showed evidence of students' engagement with their sources. Students used commentaries to indicate their agreement with a source, raise questions, or elaborate on a source. Examples of these commentaries: "I agree with him" or "historically he is right" (Matthew); "While reading this article there is one question that is raised" (Michael); "This study shows us," or "so we can see" (Christina); "[this] may have been x' s motivation" (Crystal); and "a more complete definition can be found in" (Holly).

Unlike those of their peers, literature students' papers privileged the writer's voice (Holly, Matthew, Lily). They tended to include fewer in-text citations, if not fewer sources. They also included references to the writers' own experiences and commentaries on or responses to sources. This was not surprising, however, because all three students

talked at length about their professors' encouraging them to include their opinions and to produce original work:

- The best thing I enjoyed about this entire paper was that on the very first day [the professor] assigned it, she said, I want you to use the words "I," "I have," and "personally," because she wanted this to be a first-person paper based solely off our opinion, not just a fact-driven regurgitation of what we already know. (Matthew)
- I liked that Doctor T. really wants us to be opinionated. She wants us to use our own opinions and personal experiences in our paper and then tie it back to whatever we've learned in class. A lot of our professors don't like for us to give our own opinion. (Holly)

To conclude this section, students' accounts and the paper analyses suggested that students enacted their belief about the role of expertise in academic writing in how they positioned themselves as authors. They also showed that most students did not engage with their sources, selecting instead to position themselves at the periphery of expertise, as presenters of information rather than creators of meaning. Participants' papers demonstrated awareness of citation practices in academic writing. However, students' descriptions of their sources' rhetorical functions showed that they drew on a limited register of rhetorical moves, and that perhaps they had not yet internalized the role of citation in academic writing.

Writing for the Grade: Research Writing as an Academic Exercise

Research presented in Chapter Two suggested that students' engagement in research writing assignments was framed by personal goals and course-based goals. To

some extent, this was the case for participants in this study. Students' accounts revealed that they approached research writing as an academic exercise. Not surprisingly, the desire to "make the grade" in the course was a major driver in students' source selection and use of sources. To some extent, this driver was obvious in the results of the paper analysis presented earlier. It was also evident in the way participants articulated source selection and incorporation strategies around three sets of situational concerns: complying with assignment requirements, meeting professors' expectations, and avoiding plagiarism.

Complying with Assignment Requirements

Participants' accounts showed that both their information-seeking and their writing strategies were guided by three assignment requirements: the length of the papers, the types of sources, and the minimum number of sources. Each of these requirements wove itself into their search and composing processes, from topic selection to the final drafts.

Length requirement. Participants did not discuss length requirements much. However, some of their comments suggested that it was a requirement that they took seriously and that sometimes created anxiety. For some, not meeting the length requirement would convey they had not worked hard enough:

> [T]he second source that was similar [to the first one I found], I wasn't gonna get to talk about it much so the length of the paper was going to be affected and, and it would end up looking like I didn't work that hard on it. (John)

Students also believed that the key to writing a long paper was having enough sources. Sometimes, it meant adding sources that perhaps were not truly needed:

> [T]here have been times where I've used sources just because I needed the sources to meet a, a requirement. I mean, sometimes you're crunched for time and you throw stuff in there because you have to have it. (John)

Finally, meeting the length requirement was a way to know the paper was finished, as Jimmy's account suggested: "I figured out, I was done when actually I met the criteria of words that [the professor] told us to write."

Source-type guidelines. The students in this study all reported that they had been asked to use scholarly sources in their papers. In the sports science seminar, all the sources had to meet this requirement, while in the literature course, only two scholarly sources were required. Students enrolled in the Business seminar did not have a minimum number of scholarly sources they were to use.

Students' accounts suggested that they took care to comply with this requirement throughout their search and writing processes. Source-type guidelines affected the types of sources they searched for. In questionnaire 2**,** when asked to describe what information they were seeking for their papers, respondents usually identified scholarly sources. "I was hoping to find peer-reviewed articles," wrote one student, while another simply answered, "Scholarly sources and research articles that were from journals." The interviews revealed that in courses with strict guidelines about source types, students identified only sources that met these guidelines, as the paper analyses confirmed.

By default, source-type requirements determined the advanced search features students used. The most common search features they reported using were the "full-text" and "peer-reviewed" features. Michael explained using these two criteria: "That's the standard that, that [teachers] go by. It has to be peer-reviewed and it has to be a scholar, it

has to be from a scholarly journal." Richard said he searched only for peer-reviewed sources because he believed his professor "wouldn't accept anything that wasn't . . . one." Monique said she knew that peer-reviewed sources were good "because teachers always talked about making sure that you had a peer-review article."

Finally, source-type guidelines also affected students' selection of knowledge sites. Students described searching databases rather than the Internet because they were required to use journal articles or peer-reviewed sources, which they perceived as difficult to find on the Internet. For instance, Holly said she used databases because her professor had required that she use journal articles. Quite pragmatically, students needed credible sources for their papers, and searching databases, which they believed conferred credibility, was the most efficient way to find them.

When given more freedom regarding sources, students described using a greater variety of sources. The three students enrolled in the literature course, who were directed only to include two scholarly sources in their papers, used a variety of sources, as shown in the profile of the papers presented earlier. For instance, Holly used a mix of journal articles, artwork, course materials, and books from her own collections. Fellow student Lily also reported using one of her own books as a source, as well as a movie and a novel. Matthew conducted an interview with a former professor and drew from movies. In the case of these three students, the number of scholarly sources they cited in their papers beyond the required number depended on each individual. Most of Holly's sources were scholarly sources, while most of Matthew's were popular sources.

Source number requirement. The number of sources required for the paper affected students' strategies from the beginning. As I described earlier in the chapter,

several students reported being concerned about finding enough sources, and thus looking for topics they felt would yield enough sources. Once they had identified a topic, the source number requirement influenced their knowledge site selection. They turned to resources they thought were more likely to yield the most sources with a minimal effort, such as a database in their field rather than a Google search. Furthermore, source number requirements placed boundaries on students' searches. In the interviews, six students said that they typically ended searches once they had identified the number of sources they were required to use (See table 10).

Table 10

Number of Sources Students Identified and Used Compared to Assignment Requirements

	Number of sources required	Number of sources selected during search	Number of sources in final paper
Monique	8	10	11
Roxane	8	8	7
Christina	4	5	5
Jimmy	8	Unavailable	9
Lily	2 journals	Unavailable	8
Samantha	6-8	5/6	10
Ricky	8	10-12*	5
Richard	7	12	11
John	7	8	7
Crystal	7	12	8
Matthew	2 journals	Unavailable	6
Holly	2 journals	12	8
Michael	7	7	7

Not everyone selected only the minimum number of sources required by the assignment. Five students said they found a few more sources than required. They

presented three reasons for this: getting a better grade, impressing the instructor, and having more material than needed.

- Well, the teacher told us that we should have eight minimum but we all know that the minimum, you don't want to do the minimum. You want to do a little bit more than the minimum, so I just plan on choosing a couple of more credible sources and um, use them as my research. . . . I mean, you have the minimum grade that you get. . . . He said do eight and you want to do about ten, twelve resources. . . . You just don't want to meet the required so the minimum, you want to excel and do more. (Ricky)
- I mean, I don't know if that really made an effect on our professor, as far as having the minimum seven but I feel like if I had to have seven, it kinda looks like, oh, well, he, he got seven, you know, he just barely got . . . ten would have been good. (Richard)
- I had some [sources] that I could have used in reserve but I met the requirements and I felt like I had a good paper so I didn't need to pull them in. So, I guess sort of limited myself but not technically. I had backups. (Holly)

The idea of doing more than expected, which Ricky and Richard's accounts conveyed, was a recurring theme among participants' accounts. It also related to the second strategy they used to make the grade: directing their papers to their professor.

Writing for an Audience of One

Participants' accounts suggested that they wrote their papers for one person: their professor. This was especially true for one student, who wrote her paper to challenge her professor:

> Well, what happened was in class, our teacher discussed on. We were talking about soccer. It was one of the actual categories in the book and I'm a soccer player. How it went about was *he* made a comment how hosting the World Cup because we were talking about soccer, people think it ought to be so good but it's not and kind of just ended it on there and *I* was thinking I pay attention to all World Cups. I watch it and I see the amount of tourism and all that and that made me really think I wanted to prove him wrong in a way. (Christina)

Most participants, however, sought to comply with their professors' suggestions and to convey a good image of themselves as students. Their accounts suggested they valued their professors' intellectualism and professionalism. This was evident through their consistent use of suffixes such as Dr. or Mr. and through the comments they made about their professors' intelligence and status:

- Well, first of all, Dr. T. being you know, the doctor in one of the top… and one of the more elevated individuals in the English department, uh, was very intimidating. (Matthew)
- I actually think that Mr. L. is very intelligent. (Jimmy)

Students frequently linked their search and composing strategies to their professors, suggesting that for them, the professor was the ultimate authority when it came to their work, and that they aimed to produce work that would satisfy him or her. Their compliance was enacted through both their search and their composing strategies.

Searching professor-sanctioned knowledge sites. Several students connected their database selection to instructor recommendations. Christina, for example, said that her professor had required that four sources come from SPORTDiscus, so it made sense

to use it, also noting its relevance to her discipline. The same applied for those students who searched for books in the library, based on instructor recommendations. Monique said, "I went to the library, because the teacher told us about some books that were interesting, that he thought was interesting that we should go look into. So, I went to the library to see if we had the books he mentioned."

Instructors also influenced students' decisions whether to search the Internet. Six students said they did not search the Internet because of their professors. Holly and Crystal said their professors did not like the Internet, so they searched the library instead. Holly, whose professor "really discourage[d] Internet sources," seemed fine not going online, adding that "it's a good place to start sometimes, but I didn't feel like it was for this class." Not everyone agreed with the Internet proscription. For Richard, it was an impediment. He complained, "I think that you can get good things off of, um, Internet websites but we were restricted from that strictly because of the trust issue," even as he conceded that "their facts [on the Internet] might not always be legitimate so you got to watch out for that and you hate to base a research paper on facts that aren't right." Nevertheless, Richard said he did not use the Internet.

When instructors did not forbid the use of the Internet, students went to sites they suggested. Jimmy and Samantha, for instance, said that they used Wikipedia following their professor's suggestion that it was a good place to start a search, a point another student recalled her first-year English teacher telling her.

Using professor-sanctioned sources. Students also reported selecting specific sources because they thought their instructors valued them. Monique originally went to the library looking for books her teacher had said were interesting. Matthew, Lily, and

Holly all said they included artwork in their papers because their professor was fond of art. Additionally, Matthew discussed at length his quest to meet his professor's preference for sources that presented opinions rather than facts. Finally, several participants used a course reading assigned by the professor, even though they were not required to do so.

Conveying oneself as a serious student. In their interviews, participants said they wanted to convey two messages about themselves to their professors: that they were hard-working, and that they could think. This suggested that either they valued these two qualities about themselves or they thought their instructors did, at least.

I am a hard-working student. Students were concerned that their papers, and the way they had used sources, showed they had worked hard. Richard, for instance, talked about wanting his paper "to look and read like a senior-level paper because honestly, I think that's what [the professor] expected." Students' composing processes were influenced by this desire to look hard-working. They wanted their papers to convey they had tried their best with the assignment, had gone beyond the minimum required of them, had researched their topic and not merely made up the content of their papers, and had spent time on the assignment.

- I just try not to sound like a college student that I'm writing this paper last-minute on a Friday night so I can go hang out with my friends and party, 'cause that's not what I'm here for, and I want people who read this to know that I'm trying to do my best and I wanna sound like I'm trying to do my best. (Holly)

- When you do a paper, [the professor] said the paper has 1800 words, you want to do more than 1800 words. You just don't want to meet the required minimum, you want to excel and do more. (Ricky)
- [Using good sources] shows that you put forth a lot of effort into putting in these ideas for the paper aside from just skipping all the research and spending a day talking about the paper and being done. (Lily)

Participants' strategies for showing the effort they had put into their work included paying attention to the coherence of their papers, following professors' advice about sources, using sources they felt would match their professors' interests, and, if necessary, appealing to a professor's ego:

- If you don't have the flow right and, and the arguments right and, and all that, then the reader loses interest and especially over an eleven, twelve page paper, you start losing interest when you get to the third or fourth page. The teacher or professor is going to slowly you know, lose interest and then I think, as far as your grade slowly starts declining. (Richard)
- I follow all of Doctor T. or my other professors' corrections. If they have advice, I listen to it unless I really disagree, and then I try to support that and explain it to them. I don't just take it off and say, "I'm not gonna listen to that." (Holly)
- I actually, um, quoted [the professor] . . . with a paraphrase. . . . Through his lectures, we actually read a book on fault lines and he actually gave his own insight on the business world from as he saw it. . . . I think he made a valid point when he said it, so I felt that I had to put it in my paper. (Jimmy)

- [I paraphrased] just because Dr. M. was saying, so you can get a better understanding, it's better to paraphrase it rather than just direct quoting everything you find, so you read it and put it into your own words. (Crystal)
- Mr. L. told us, "Don't use a lot of quotations and paraphrase so you can, so you can prove the understanding of your sources before you actually use them." (Jimmy)

I am a thinker. Participants also hoped their papers would convey the thinking that had gone into them. Thus, they described organizing sources to show they had engaged with these sources rather than merely piecing them together. Richard talked about highlighting and making notes on his sources, and reading them prior to writing his paper. This, he felt, helped him produce college-level work, and show that he had made connections among all the sources he included in his literature review instead of considering them separately. More succinctly, Monique said she wanted her readers to see that she had not copied what she had read in her sources, but had "thought it through and put [her] own information in there."

Avoiding Plagiarism

Participants brought up plagiarism at some point during each interview to convey their belief that research writing assignments put them at risk of plagiarizing. Most said that the fear of unintentional plagiarism had created much anxiety. For some, the fear came from the instructors themselves:

- I felt a little scared too just because my teacher told us that he a real, he's really big on plagiarism, so you had to make sure everything was correct, cited correctly. Make sure you didn't mess up anywhere. (Monique)

- [The professor] made it so you could only get a zero if you do something wrong, but other research papers, they really give you more room for errors. (Jimmy)

Students' accounts also included stories of their professors' past records failing students, and the demise of these students:

- Last year a guy from Guatemala had all of his family have their plane tickets to come for his graduation, everything was set. It was the second last class he was taking in college and everything was fine. Once his grade came in, the professor called him to his room and said, listen, you plagiarized. You got an F. You're not going to graduate. So, given his experience, I was just freaking out about this paper, so, just to make sure I got the right sources. (Roxane)
- Here at this college, if you get caught once, depending on the severity, you can get kicked out of the college on the spot and that unnerves me. (Matthew)

What scared students about plagiarism was the possibility that they might plagiarize accidentally. Although they did not say so, their fears may have come from knowing their papers were likely to be run through Turnitin.com, a site incorporated into the college's course management system and widely used by professors. This was suggested by one student's account:

> I've had situations where like I'd write something and we pop it into a computer and it would come so close to being plagiarized but the professor knows I didn't do it 'cause she sat there and watched me write it. (Matthew)

The fear of plagiarism led students to choose specific strategies for incorporating sources into their writing, although as a group, no one common strategy emerged. These

strategies included quoting, paraphrasing, using citations, and incorporating sources after writing.

- I can put paraphrase [sic] and I'm comfortable doing it but for a long research paper where I've read multiple sources and I'm writing long pages, I sometimes feel like I might accidentally say something that really wasn't my words, I just thought it was. So I tend to quote more. (Holly)
- I double-checked, triple-checked, like, everything to make sure you, I had the sources on there right. I make sure I cited them correctly. Make sure I paraphrased. If I paraphrased and make sure, like, everything. I just make sure I did it. (Monique)
- I talked to students prior to [my teacher's] class and they told me to make sure I cited as much as I could. . . . So I did that as best as I could but I made sure to quote just so I didn't plagiarize. (Christina)
- [W]hen I wrote this paper, I sat down and started writing before I even touched my sources. I read them, the ideas, wrote the paper, got about page six or seven and then went back in and plugged in the sources where I needed them so that way … the chance of plagiarism was at its minimum. (Matthew)

Despite students' concerns about plagiarism, papers presented some sloppy citation practices, including omitting dates in in-text citations, not matching an in-text citation to its entry in the bibliography, omitting sources in the bibliography, listing sources in the bibliography not cited in the body of the paper, omitting quotation marks at the end of a quotation, and not formatting the bibliography properly. In some cases, it was also difficult to tell when a paraphrase ended. This suggested that students focused

on how to present a source's content to avoid plagiarism, and that they believed that as long as credit was given to the source somewhere in their papers, they would not get in trouble.

Students' strategies for achieving their main goal—to successfully complete the assignment—positioned them in the role of "compliers." They followed the rules and used sources to demonstrate what they thought their instructors valued, such as hard work and thinking. The results of the paper analyses showed that they indeed complied with the assignment requirements. Furthermore, participants' papers included features of academic writing that were probably not listed on their assignments: in-text citations, bibliographies, and paraphrases, suggesting that they understood these as basic conventions of academic writing they needed to incorporate into their papers to be successful. However, as I explained earlier, they had internalized neither the mechanics of citations nor their rhetorical purposes.

CHAPTER V:

CONCLUSIONS, DISCUSSION, AND RECOMMENDATIONS

This study started with a question: What do students believe a good source is, and how do these beliefs shape rhetorical decision-making in their own writing? It sought to explore and connect two processes that have typically been examined separately—searching for and writing with sources—by looking at their intersection through a cognitive lens. Four research questions guided this study:

1. What strategies do students use, by their own accounts, to find and select sources?
2. What strategies do students use, by their own accounts, to compose with sources?
3. What beliefs guide students' search and composing practices?
4. In what ways is students' use of sources connected to their personal epistemologies?

The results presented in Chapter Four described at length the strategies that participants used for finding, selecting and composing with sources. These strategies often matched what the research presented in Chapter Two suggested could be expected about undergraduate students' use of sources, suggesting that this study's participants were, in many ways, typical, undergraduate information-seekers and writers. They turned to tested knowledge sites that they trusted would yield the number and types of sources they needed, and they also demonstrated understanding that some knowledge sites are more credible than others (Seamans, 2002; Rieh & Hilligoss, 2008). They conducted unsophisticated keyword searches, drawing from skills and knowledge acquired in their high school or first-year English courses. Their source selection strategies were consistent with the claim that undergraduate students' information search process is influenced by topic selection and hinges on personal and contextual concerns (Li & Holliday, 2004;

Kuhtlau, 2004). It also confirmed that students are less likely to engage in in-depth reading of digital sources and are more likely to settle on a focus early in during the search process, skipping the focus formulation stage (Li & Holliday, 2004).

Similarly, participants' accounts of writing with sources were consistent with the research claiming that students believe academic writing should be impersonal (Ballenger, 1999) and often struggle with establishing their own authority (Ballenger, 1999; Sommers & Saltz, 2004). Participants in this study embraced objectivity in their use of sources, putting their voices at the margins of their papers and placing emphasis on the voices of their sources, which they rarely questioned. They also believed they lacked authority, which caused them to have a limited sense of authorial agency. Just as Davis (2003) and Knight-Davis and Sung (2008) had observed in their own research, participants' citation practices were tied to assignment requirements and professors' preferences. A review of the way participants incorporated sources in their own prose suggested they did not believe they needed to establish the authority of their sources, a point McClure and Clink (2009) had reported in their own research. Finally, participants assigned a limited number of rhetorical functions to their sources, most of which aimed to support points or to show their knowledge, suggesting that they saw the use of sources as a tool for positioning themselves (Anson, 2004).

This study did uncover some practices that had not received much attention in prior research, yet they merit attention because of their importance in students' approaches to research writing: the use of turning-point sources, the reliance on conferred credibility, and the positioning participants assumed in their writing. In the first part of this chapter, I discuss each one, highlighting their implications and their significance for

our understanding of how students conceptualize and use sources in academic writing. In the next section, I turn to the thinking that framed not only these three practices, but also more generally how students approached their writing research assignment. I start this section with what I found the most surprising discovery in this study: that, contrary to expectations, participants embraced absolutist thinking as they looked for and composed with sources, turning their research problems into structured problems with a set solution. Then, drawing on recent developments in epistemology theory, I argue that this absolutist thinking was shaped by situational context, and that students' personal epistemologies, grounded in this situational context, determined how they conceptualized what a good source was. The chapter ends with a review of the study's limitations and suggestions for further research.

The Turning-Point Source

The first significant finding in this study concerns participants' use of a key source as a guide for their research and composing processes. In the interviews, every participant mentioned one source they believed was their best, the most crucial in their research. As I described in Chapter Four, when prompted to explain why they thought that particular source was important, it became obvious that this key source had a significant impact on participants' information-seeking and composing strategies, and that participants used that source in similar ways.

This key source, which I labeled a turning-point source, was essentially a source participants credited for helping them settle on a topic. Identifying this key source marked a turning-point in their research in four significant ways. First, it brought the topic selection to a close and put an end to their anxiety about finding a topic they felt

they could manage. Second, it also served as an anchor for participants' research, providing direction for their searches and a measuring stick against which to compare sources they found subsequently. Third, it provided the foundational knowledge participants needed about their topics: an overview of the issue they were researching and background information they could use in their papers. Lastly, at least for some participants, it provided an organizational structure they could model in their papers.

Participants' turning-point sources were varied, but they shared common characteristics. They often were one of the first sources they had found about their topics. They were usually peer-reviewed sources or books participants believed their instructors would find credible, such as a course textbook. In most cases, turning-point sources offered perspectives that matched participants' worldviews or resonated with their experiences. In other words, turning-point sources were ones to which students connected, either because of their content or because of their readability. Finally, the turning-point sources generally became their best source, one they cited in their final papers, even though– or perhaps because– it was found at a time in the search process when participants were not yet very knowledgeable about the topic.

The concept of a turning-point source is significant for several reasons. First, it may explain why students sometimes complain that they can't find enough sources or that all their sources repeat one another. Perhaps what they really mean is that they can't find enough sources that measure up to or elaborate on their turning-point source. Similarly, if they are using their turning-point source as a guide for structuring their papers, they may resist suggestions for revision that do not fit within the turning-point source's organizational framework. More significantly, however, the turning-point source

could be in part responsible for how participants positioned themselves as researchers. The results presented in Chapter Four showed that many participants felt they lacked expertise and authority on their topics, and that in response to this felt lack of authority, they deferred to the authority of others, their sources especially. By using the turning-point source as a measure for the worth of other sources and as a framework for their papers, they deferred to its authority, in essence. Furthermore, rather than providing a research question that would propel them into inquiry mode, for most participants, the turning-point source seemed to have worked as *the* answer to their research problem. Thus it kept their search for more sources a quest for confirmation rather than a quest for new meaning, a quest embedded in absolutist thinking, as I will argue later in this chapter. The turning-point source positioned participants from the onset as transmitters of knowledge rather than creators of new meaning.

More research needs to be conducted on the concept of the turning-point source and the role it plays in students' research writing strategies. Considering the importance it seemed to play in participants' information-seeking strategies, we need to learn more about what leads students to identify a source as a turning-point source. What are markers of a turning-point source? What makes it a "best" source? What roles do students' self-efficacy, the situational context for the research, and the anxiety they experience during the topic selection stage play in their selection of a turning-point source? We also need to further explore whether turning-point sources support inquiry about a research topic, suggesting potential research questions perhaps, or inhibit inquiry, providing, as seemed to be the case for most participants in this study, an answer to their research question before they engage in research.

Conferred Credibility

Another important finding in this study was how students dealt with matters of credibility. Participants talked at length, unprompted, about the necessity of using credible sources for their papers. Yet their accounts provided little evidence that they actually evaluated the credibility of their sources. Instead, they described turning to resources they believed would only yield credible sources– the online catalog and the library's research databases predominantly– and avoiding those that would not, such as Wikipedia and Google. These participants believed that library resources, which had been recommended by their professors and the library staff, whose expertise they trusted, had received the endorsement of professionals and experts. Thus, they assumed that any source found in these knowledge sites would be credible.

Participants' accounts were consistent with the claims made by Rieh and Hilligoss (2008) in their study of how college students approached credibility when using digital media to do research. Students, they found, did not see credibility as their primary concern but still cared about it when conducting online research in their daily lives (Rieh & Hilligoss, 2008). My study suggests that this is also true when students engage in research for academic projects. To some extent, this finding is not surprising. Doing research about a new topic, at the onset, entails turning to experts whose knowledge about the subject we trust. What is more significant in the results I presented in Chapter Four, however, is how narrow participants' understanding of credibility was. Although they never used the term, participants' definitions of credibility consistently matched one of the four types of credibility Metzger and Flanagin (2008) defined in their theorization

of credibility: "conferred credibility," which applies to information one deems credible because of its endorsement by an official entity or authority.

In Chapter Two, I suggested that students may feel overwhelmed by the source-evaluation processes we teach them. I pointed out, for instance, that the evaluation guidelines described in a typical research handbook may involve no fewer than ten questions. "I have to do this for every source I find?" is a question I often hear in my own courses when I teach strategies for evaluating sources. Participants in this study, however, were not so concerned about the laboriousness of the process as they were about their lack of authority for making judgments about the credibility of their sources. In other words, they understood the necessity of evaluating sources but did not feel the authority to do it. Some doubted their ability to evaluate the credentials of an author in a field they were unfamiliar with. Others pointed out that their limited knowledge of their topics meant they often had to rely on "faith" to determine whether a source was credible. Doubting their own ability to make judgments about the credibility of sources, they deferred to the judgment of others and relied on conferred credibility.

Participants shared a common understanding of conferred credibility. For them, the primary marker of a source with conferred credibility was the peer-reviewed label. Simply stated, they believed that if a source was peer-reviewed, it was credible. For them, peer-reviewed meant that the source had been checked by a professional, although they were not always sure who that professional was: an expert who had conducted research in the field, the library staff, people working for the database service, etc. In any case, the fact that source had been checked absolved them from having to check it themselves. It could be trusted. Not surprisingly, participants' beliefs about the credibility of peer-

reviewed sources developed in the classroom. The importance of using peer-reviewed sources rather than popular sources in academic writing had been drilled into their heads by their professors, starting during their first year of college. It had been reinforced by assignment instructions that required they use a specific number of peer-reviewed sources, and by library instruction that focused on where they could find such sources.

The use of conferred credibility to identify sources had implications on participants' information-seeking strategies. First, it led them to search the library rather than the Internet. As I reported in Chapter Four, all but one participant turned to library resources to find sources, and almost half of them turned to library staff for help. This finding contrasted with research suggesting students generally preferred the Internet (McClure & Clink, 2009) or tended to avoid the library when they could (Seamans, 2002). For these participants, however, using the library was a matter of both success and efficiency. First, they believed that in order to be successful, it was best to comply with assignment requirements, including the required number and type of sources. Therefore, turning to resources suggested by their professors, such as the library, made sense. Feeling that they lacked authority, it was safer for participants to defer to people they thought were knowledgeable. The library resources allowed them to limit their searches to resources they believed would yield only the credible sources they needed, would provide enough of these sources to meet requirements, and would save them time.

Another significant consequence of using conferred credibility during the search process was that participants used source types that *were* appropriate for their assignments. One of the most common claims made about students' research papers is that they often include popular sources that are inappropriate for academic writing. This

was not the case in this study, where all the final papers but one listed, if not exclusively, at least a majority of peer-reviewed sources. Participants in this study linked their choice of sources to assignment requirements and their professors' expectations that they use credible, scholarly sources. Clearly, they understood that not all sources were the same, and that academic writing required a specific kind of evidence. They also showed some understanding that the situational context for an assignment determined, in part, the types of sources they should use.

A final implication of participants' use of conferred credibility may also be found in how students incorporated sources into their own prose. In Chapter Four, I reported that few participants established the authority of their sources in their writing. The introductory tags they used to lead into paraphrases or quotations generally cited only the names of authors, even the first time they introduced a source. One reason could have simply been lack of experience writing with sources. However, it is also possible that they did not think it was necessary to show the credibility of a source that came from a resource sanctioned by their professor and that had been reviewed by some official entity. They may have just assumed that their readers would know the source was credible and authoritative.

In my 18 years teaching students how to evaluate sources, I have often discussed the matter of credibility, but I had never come across the idea of conferred credibility until I conducted this study. I suspect I am not the only one in this situation. Yet, after hearing students describe how much they relied on it, I now believe that understanding the concept of conferred credibility is essential for those of us who teach students how to evaluate and write with sources. This study found evidence that students valued

credibility and believed a good source was a credible source. They understood that credibility, their own and that of their sources, is an important feature of academic writing, and they knew how to find credible sources when the instructional situation demanded it; all they had to do was search for peer-reviewed sources. The problem, however, was that for they believed *all* peer-reviewed sources were good sources. Thus, differentiating between sources became a matter of preference: Did a potential source "look" good? Did it look "readable?" Did it match their turning-point source? Finally, by relying on conferred credibility without questioning how or why such credibility was "conferred," students lost opportunities to think critically about their sources and to make their own judgments about their sources.

I believe that helping students see that not all peer-reviewed sources are the same should be a focus of research writing instruction in advanced undergraduate coursework. This would include teaching students not only what a peer-reviewed source is, but also what it does. It would mean demystifying how credibility judgments are made in a specific field, and expanding their definition of credibility beyond conferred credibility. More significantly, this would entail teaching students how to read peer-reviewed sources in their fields, so that the decisions they make about sources are less based on looks and feelings and more on what a source contributes to their inquiry. Ultimately, such instruction would help them grow as critical thinkers and develop a repertoire for making judgments about sources not solely based on conferred credibility, and, perhaps identify turning-point sources that raise questions and lead to inquiry rather than provide answers to research questions they have not yet formulated.

Writer Positioning

A third finding in this study concerns how students negotiated authorial agency when writing with sources. As I mentioned in the section on conferred credibility, participants felt they lacked authority about their topics. Not surprisingly, this feeling also applied to their composing process. The result was that as they negotiated authorial agency, they deferred to their sources, muffling their own voice, and positioning themselves as transmitters of information rather than creators of meaning.

In Chapter Four, I proposed a four-role model to describe the interactions between writers' voices and their sources' voices: Organizer, Moderator, Framer, and Commentator. Those participants who adopted the first three roles gave prominence to the voices of their sources, deferring to their authority. Their accounts, and their papers, suggested that they conceptualized their roles primarily as presenting knowledge, which their lack of expertise prevented them from questioning. Organizers' stance was objectivity, and their authorial agency was confined to their source selection process and their ability to organize the knowledge they had found. Their voices did not belong in their papers. Moderators also embraced objectivity, but allowed their voices to be present in sections of their papers that did not include sources –usually the introduction and the conclusion. Framers saw presenting information in an organized, objective fashion as their primary role. However, they also believed they needed to provide short introductory and concluding statements, usually a restatement of the source's major point or a transition for each source. Through these statements, they were able to bring in their own voices. Finally, unlike the other three groups, Commentators used sources to bring up their own opinions or experiences, to raise questions, or to evaluate sources. They

believed their research should be guided by questions, including questions about the validity of what their sources wrote, as Holly explained below:

> In literary analysis, we called it "killing the father," where you find someone who said this and then you make your own space in the research and say, "Well, they said that but that's not what I'm saying and I disagree with that and I'm going to prove why." (Holly)

These writers reported a greater sense of authorial agency, noting that they felt challenged by some of their sources, to which they responded, drawing as they did so on their own experiences and prior knowledge. Because they claimed some authority of their own, they were able to engage in dialogue with their sources as they composed.

I found that the majority of participants in this study positioned themselves as Moderators or Framers, and that in their attempts to remain objective, they composed papers that read like the collages of sources I mentioned when I set out the study in Chapter One. Several reasons may explain why participants assumed these, if not passive, at least neutral positions in relation to their sources. First, they may have elected to embrace objectivity because they believed academic writing demanded it. In the interviews, most stated they considered the use of their own opinions or experiences inadequate for a research paper. They believed that research papers should draw on experts, people who were either credentialed in the subject area or professionals in the field. Sports science and business students were most likely to express these beliefs. They all adopted positioning that privileged expertise and the voice of their sources. Literature students such as Holly, in contrast, were more likely to position themselves as commentators, recalling that their professor challenged them to raise questions. Thus,

students' perceptions of how professionals write in their fields may explain how they positioned themselves in their papers. The paper analyses presented in Chapter Four support this claim. Participants' papers emulated characteristics of academic writing, including in-text citations, reference lists, and peer-reviewed sources. Furthermore, citation practices varied depending on the field of study: in-text citation occurrences were more prominent in the business and sports science papers than in literature papers, for instance. Similarly, the types and variety of sources depended on participants' disciplinary fields and professors' instructions. These differences, I believe, illustrated students' recognition of the typical conventions in their fields' written discourse.

Second, participants' beliefs about their own authority affected how they positioned themselves in relation to the sources they used. Most participants believed they lacked authority, even when they reported having prior experience or knowledge of their topic. This was especially true for those enrolled in the business and sports science courses, who believed that it was through the voices of others that they could look knowledgeable, enacting the practice of "writing into expertise" that Sommers and Saltz (2004) observed in their study of first-year writers. Although these participants were not first-year students, their assignments, which their professors described as most challenging, and their limited experience with longer writing assignments in their majors placed them as novice writers in their discipline's discourse. Two of the literature students, however, claimed some authority on their topics during the interviews, which they grounded in prior interest in their topics:

- [My topic] was something that I was really interested in especially since, uh, about seventh grade I think is when the interest in that subject was. . . . I jumped

on the, uh, mythical creatures aspect because that has been a favorite thing of mine for many years and *I've actually done personal research as a, uh, a hobby for a good many years ever since I started getting interested in them*. (Lily) (emphasis mine)

- [The topic] that piqued my interest the most was magic and mythology. *I've always been interested in magic*. And so I started with books I already owned and then the requirement was to have two journal articles. So, I found the points I wanted out of the book I already owned and I researched journal articles that would support or expand on these points. (Holly) (emphasis mine)

For participants, the lack of authority they felt translated into a limited view of their own authorial agency. This finding was consistent with Bouman's (2009) claim, presented in Chapter Two, that writers may not claim their own authority in their writing unless they feel that they are "authorized" to do so. In this study, the literature professor's exhortation that her students use opinions in their papers may have provided the authorization they needed to engage their sources. One of her students, Matthew, reported feeling empowered by this exhortation:

> When I walked into her class, I was afraid I was going to be overwhelmed with just facts and overwhelmed with what I was gonna have to do to make this paper work. And when she said that she wanted it to be based off of our thought process, critical thinking, *it dropped pounds of pressure off of me* that I was worried about because at that moment … well, you know, I'm worried about her crossing my facts to make sure I'm right but when it's my opinion of course I am right. It's my opinion. She can't debate that. She can, but she can't prove me wrong. So I mean it's

> just a personal thing. So it was a lot more entertaining, a lot more fun. It was yeah, it was amazing. It was like no paper I've ever had to write before. (Matthew) (emphasis mine)

As they described their use of sources, students such as Matthew positioned themselves as part of a larger conversation with their sources and their audience, a conversation initiated through research questions, which their professor required they ask.

Conversely, business and sports science professors' perceived emphasis on the use of scholarly, professional sources may have discouraged students from questioning or responding to their sources. These students started their research with a set idea of what they wanted their papers to say, not with questions, which suggests that they saw the research assignment as an opportunity to validate or confirm knowledge rather than an opportunity to inquire and learn about new ideas. Their belief that they lacked authority limited their sense of agency, leading them to defer to their sources' expertise and to keep their voices at the margins. They also imitated discourses' conventions rather than truly enacting them, much in the way Bartholomae (1984) described novice writers pretending their way into academic discourse. The participants in this study were not novice writers. However, by their own accounts, they had limited experience with research writing in their areas of study, and their understanding of citation practices seemed focused on the elements and mechanics of citation. The incidence of incorrectly formatted citations and the minimal usefulness of tags, which caused papers to read like collections of paraphrases, suggested participants knew about citing conventions but did not understand their purpose. Perhaps, then, how students positioned themselves in their writing is in part the result of not understanding the roles that sources play in writing. The fact that

participants had trouble justifying source occurrences in their papers supports this claim. So does the limited range of rhetorical functions they assigned to sources. For these participants, sources could play two primary functions: to support a point or define a term. These participants' use of sources was likely affected by their struggle to assume an academic-sounding voice with full awareness that they lacked the knowledge and authority to do so authentically.

The matter of how students positioned themselves has at least two implications for helping students do a better job using sources in their papers. First, if students assume positioning that keeps them passive because they have a limited understanding of the role sources play in academic writing, then they need research writing instruction that expands their rhetorical repertoire for the use of sources. Second, this study suggests that how professors approach the concept of expertise and evidence in the classroom could have a bearing on how students negotiate authorial agency. Discussions of expertise that leave students believing their own experiences have no legitimate place in their writing are likely to silence them and lead to writing in which only the voice –and thinking– of others can be heard. Thus, when developing research assignments and framing them for students during class, professors should not simply emphasize the type of sources they want their students to use, but explain what makes a source a good one, besides being labeled peer-reviewed, and how sources are used to build and create meaning in their field.

Searching and Writing for Certainty

When I set out to explore students' beliefs about good sources, I had a set of my own beliefs: that research writing, at least in issues-based courses, entailed solving

problems that did not have set solutions; that such problem-solving required being able to deal with uncertainty and making judgments about what information to believe; and that consequently, how students conceptualized knowledge affected how they selected and used sources. The inspiration for these assumptions came from reading King and Kitchener's (1994) work on Reflective Judgment, presented in Chapter Two, which offered a developmental model for understanding how college students made decisions. Their model proposed a connection between students' beliefs about the uncertainty of knowledge and their ability to make judgments about complex problems. I hoped that using King and Kitchener's model, I would be able to better understand how students made decisions about which sources to select and how to use these sources to craft an essay in response to their research question.

To make sense of the beliefs about knowledge that shaped the decisions participants made about sources, I turned to two epistemology theories: Perry's (1970) Scheme of Intellectual and Ethical Development and King and Kitchener's (1994) Reflective Judgment model, both described in Chapter Two. An important theme in both of these models was how students approach uncertainty in knowledge at different stages of intellectual development. What I found was startling: The majority of participants in this study, especially those enrolled in the business and sports science courses, approached their research assignments as a structured problem, one with a set solution, rather than as an ill-structured problem, and in so doing they embraced absolutist views of knowledge as they looked for and used sources.

To make sense of how students' views of knowledge affected how they found sources, I turned to one of the few resources attempting to frame students' mastery of

information literacy skills to their personal epistemology, Rebecca Jackson's (2008) "Information literacy and its relationship to cognitive development and reflective judgment." Using Perry's Scheme (1970), Jackson noted that dualistic thinkers typically conduct simple searches, rely on a limited number of knowledge sites, tend not to evaluate sources, and often limit their searches to what is required of them (Jackson, 2008). The information-seeking strategies Jackson (2008) characterized as tinged with dualistic thinking were strategies participants in my study most often described using. As I noted elsewhere, participants believed knowledge was certain and came from experts, and these beliefs wove themselves into their search processes, which characterized dualistic thinking. Their searches led them to knowledge sites they believed would *necessarily* yield good sources—sources with conferred credibility whose content matched their worldviews and experiences. Participants believed these sources were intrinsically good, while others, such as Internet sources or those that challenged their beliefs, should be dismissed. Finally, they acted to please their professors, limiting their searches to what was required, and suspending their own opinions and downplaying their own experiences in their papers.

There was some evidence that a few participants approached their research from a more advanced epistemological position. Two of them described views of knowledge that fell under Perry's (1970) Multiplicity stage. They thought one could never know truth for good, either because one could never know all or because what might have been true at one time may no longer be in a different context. They responded to this uncertainty in different ways. One thought that faced with uncertainty, it was best to rely on experts. In doing so, she espoused the dualistic approach described above. The other student opted to

doubt facts and rely on his own opinions instead, which he considered as legitimate as others'. In his search, he considered a broader variety of sources than did his dualistic counterparts, including popular sources and his own experience, moving beyond authorities because their opinions did not hold any more truth than his own. His search strategies thus encompassed features such as revising information needs with his professor's help, which fell under Jackson's (2008) characterization of multiplistic information-seeking strategies. Finally, one participant, Holly, exhibited what Perry (1970) would have described as relativistic thinking. For her, information was uncertain and could be known by considering one's experiences and beliefs, the situational context, and diverse expert perspectives. In her search, she considered a variety of knowledge sites and sources (including her own experiences), did not confine her source selection to expert sources, evaluated sources, and generally was willing to confront viewpoints that conflicted with her own.

Participants' absolutist thinking was also reflected in their accounts of composing with sources and in their papers. They used sources to present one perspective, suggesting that they believed there was a right or wrong view on their topics and that only the right view belonged in their papers. Their reliance on authoritative sources, which generally left themselves out of the picture, also suggested they enacted a dualistic view of knowledge whereby they believed that if information came from experts, it had to be true. This position limited their sense of authorial agency. They were not creators of meaning so much as they were passive presenters, imitating "professional" writing through citing practices.

When I applied King and Kitchener's (1994) Reflective Judgment model to students' accounts of why they selected and used sources, I found that most participants' beliefs about knowledge fit under stage 3 of Reflective Judgment. In this stage, knowledge, which King and Kitchener characterized as pre-reflective thinking, is believed

> to be absolutely certain or temporarily uncertain. In areas of temporary uncertainty, only personal beliefs can be known until absolute knowledge is obtained. In areas of absolute certainty, knowledge is obtained from authorities. (King & Kitchener, 2004, p. 41)

Participants adhered to the belief that the information from their sources was true because it came from experts and professionals. In cases where knowledge was uncertain, they deferred to their own experiences and beliefs to determine what was true. This was obvious in their defining a good source independently from its situational context, limiting themselves to peer-reviewed sources, and determining sources' worth by checking them against their own observations and beliefs or their turning-point source. Few students reported selecting sources with which they disagreed or changing their beliefs as a result of conducting research. They enacted an absolutistic view of knowledge in their use of sources.

This absolutistic view of knowledge was also reflected in the strategies they used to incorporate sources. Participants started their papers with a preconceived idea of what they wanted to say, and only one student reported that her research led her to reconsider this idea. They used peer-reviewed sources to validate and support their views, and they did not question what the expert sources said. Their justification for using sources, and

their reliance on the authority of others in their writing to the exclusion of their own voices, also fell under stage 3 of Reflective Judgment:

> In areas in which certain answers exist, beliefs are justified by reference to authorities' views. In areas in which answers do not exist, beliefs are defended as personal opinion since the link between evidence and beliefs is unclear. (King & Kitchener, 2004, p. 41)

In writing from expert sources, students hoped to achieve the credibility their felt lack of authority denied them. In a way, they were also "writing it safe": because what their sources said was true, a judgment they made by choosing sources that matched their beliefs and experiences, then the knowledge conveyed in their papers was also true, and was more likely be accepted by their professors, who had suggested the types of sources they should use.

They Just Can't Think—Or Can They?

My discovery that participants had approached research as a structured problem and embraced strategies grounded in absolutism was surprising for three reasons. First, the topics that participants investigated– corporate greed, the housing crisis, and homophobia in athletics, to list a few– fit King and Kitchener's (1994) definition of ill-structured problems as those that " cannot be described with a high degree of completeness or solved with a high degree of certainty" (p. 11). Additionally, the information-seeking process itself was an ill-structured problem; it required participants to use judgment to decide which sources, out of possibly hundreds, would best help them answer their research question, to make decisions about which source to believe, and to reason about why one source was better than another. Another reason I found this

discovery surprising was the fact that King and Kitchener's (1994) Reflective Judgment theory was backed by more than 20 years of research showing that by the time they graduate from college, undergraduate students typically exhibit characteristics of quasi-reflective thinking whereby they recognize that knowledge is uncertain (King & Kitchener, 2004). Consequently, I thought it reasonable to expect that participants in this study, as upper-level students, would demonstrate features of quasi-reflective thinking. Third, further supporting this expectation were the results of the Reasoning about Current Issues test (RCI), an instrument to assess students' reflective judgment used nationwide, which Tusculum College had administered to its senior class in the spring of 2011. These results suggested that as a group, the 2011 senior class demonstrated the second stage of quasi-reflective thinking. Participants' absolutist thinking, then, presented a conundrum and raised two questions: Why did these seniors not demonstrate the level of reflective judgment characteristic of their class? And how was it that juniors enrolled in the literature course showed more advanced levels of thinking, according to Perry's (1970) scheme and King and Kitchener's (1994) model, than their senior counterparts in sports science and business?

It would be easy to answer these questions with the propositions that led me to initiate this study of students' use of sources in the first place: that students don't care, that they don't know how to do research, that they don't have a sense of inquiry, or even that they can't think critically. Yet the results I presented in Chapter Four suggested that none of these statements is accurate. Students did care about the topic they selected, just as they cared about producing papers that showed they had worked hard. Additionally, they knew where to look for sources, just as they knew which types of sources would best

meet their needs. Finally, they understood that academic writing required specific evidence, which they diligently worked to find and use.

Perhaps, then, this study's participants were not typical of their class. Perhaps they were pre-reflective thinkers with absolutistic views of knowledge, who generally deferred to authorities when faced with dilemmas. In fact, a closer look at the RCI results by majors for Tusculum's 2011 senior class revealed that out of the 17 sport management and business students who took the test, six demonstrated pre-reflective thinking (T. Narkawizc, personal communication, April 5, 2012). Perhaps some of these students were enrolled in my study. Yet participants' accounts of how they generally approached research or how they made sense of professors' instructions suggested they were able to engage in quasi-reflective thinking. For instance, their articulation of why they had or had not used Internet sources showed that they understood that different situations required different knowledge tools and implied different information needs. Beyond the boundaries of their research assignments, they understood knowledge to be contextual, an understanding characteristic of quasi-reflective and reflective thinkers.

A look at what students could gain from turning the research assignment into a structured problem may provide the beginning of an explanation for this conundrum. The first implication of their approach was minimizing anxiety through the process. By limiting their searches to sources with conferred credibility that matched the turning-point source and their worldviews, the need to make decisions about the worth of sources was virtually eliminated, as was the associated anxiety of using the wrong sources. For many, uncertainty ended with the finding of a turning-point source and the closing of their search process. By choosing sources that matched their beliefs or experiences, they

were able to temper the anxiety that came from having limited knowledge about their topics and the claims made by their sources. Thus, using personal experiences and beliefs might have been a way to deal with the uncertainty that arises when one does not know yet. A related outcome was that by supporting their points with sources they felt confident were solid, they could focus on concerns they felt more competent to handle: the structuring and formatting of the papers. This included making sure they cited enough to avoid plagiarism and its dire consequences.

A second major implication of approaching the research assignment as a structured problem dealt with their roles as researchers and creators of meaning. Because their research problem had one set solution that could be found in expert sources, participants' primary role was not to explore, inquire, and learn, but rather to gather this knowledge and present it. For them, the research assignment was not an opportunity to learn, although some did note that in the end, they had learned new information. Rather, the assignment was an opportunity to show their ability to find, not create, knowledge, as the metaphors they used to describe research writing illustrated:

- I like the drive to actually hunt down on [sic] important information. (Jimmy)
- Writing a research paper for me is like a test of your ability to gather facts and knowledge and then form your own educated opinion . . . proving that you are an educated individual. That you know how to hunt down facts. (Matthew)
- Writing a research paper is like planning a wedding, something big like that, a party or family gathering. I feel like you have to have everything situated before you can start it. You have to have your plan set out. You have to know your

limits. How long you have to be, how many words, how many sources. You really have to have a good idea of what you need to do before you begin. (Monique)

Tailoring Personal Epistemology to the Writing Situation

I propose that the epistemological thinking that framed participants' source selection and use of sources in this study was situational, and that faced with a learning situation they found risky, they reverted to pre-reflective thinking. A belief that was paramount for all the participants was that research writing inherently placed them at risk of unintentional plagiarism, which they were convinced would either end their college careers or delay graduation. Thus, plagiarizing was the most significant threat to their success, especially since it came with the belief that they would not know they had engaged in plagiarism until they got caught by their professors. In other words, their fear came with a deep-seated sense that plagiarism could happen to them. It was the source of much anxiety, and, for many of them, a driver in their decisions about how to incorporate sources in their writing and how often to include in-text citations.

Students' fear of plagiarism, and their self-professed lack of experience writing in their disciplines, made the research assignment a threat to their success in the course. This was especially true for the ten participants who were about to graduate and were enrolled in seminars reputed for being challenging, taught by professors known for setting high standards. For those seniors, the stakes were particularly high. Not passing meant not graduating. Thus, they needed strategies that would ensure their success. In considering their information needs, they may have thought not only about their topics, but also about sources that would ensure they did well. Thus, participants' strategies may have been prefaced by choices—such as the choice to approach research through pre-

reflective thinking—that would ensure their success. Perhaps, then, making the research situation a structured problem was a strategy, albeit perhaps an unconscious one. It may have limited their authorial agency, but it gave them some control over the outcome of their work: if they did not have the authority or the expertise to create new meaning, they were nevertheless competent enough to identify good sources that would help them be successful. Thus, espousing a perspective that embraced knowledge as certain and known could be a strategy for achieving their goals, or, to borrow from Damasio and Immordio-Yang (2007), "to optimize [their] survival, and to allow [them] to flourish" (p. 4) in a high-anxiety learning situation.

The idea that students would adapt their views of knowledge and thinking processes to meet a desired outcome is supported by recent neuroscientific research and epistemology theory. Neuroscientists have found evidence that when faced with risky decisions, individuals may make unconscious choices that allow them to make decisions that are in their best interest, and that emotion plays an important role in shaping these choices. Some research has shown that in a situation involving risk, one makes unconscious choices that will affect one's decision-making strategies later on, and that these unconscious choices are affected by emotion (Bechara, Damasio, Tranel, & Damasio, 1997; Shiv, Loewenstein, Bechara, Damasio, & Damasio, 2005). Immordio-Yang and Damasio (2007) argue for a deeper understanding of the role of emotion in learning, one that recognizes the overlap between emotion and cognition and its relevance to decision-making and thinking. For them, "[e]motions help to direct our reasoning into the sector of knowledge that is relevant to the current situation or problem" (Immordio-Yang & Damasio, 2007, p. 8).

Recent epistemology theory has also suggested that affect plays a part in one's strategies for achieving desired outcomes. In the concluding chapter of *Personal Epistemology: The Psychology of Beliefs About Knowledge and Knowing,* a collection of essays reviewing current theories of epistemology, Pintrich (Hofer & Pintrich, 2002) suggested a reciprocal relationship between personal epistemology and academic outcomes:

> If personal epistemologies are deeply embedded, implicit theories or stances or positions or beliefs, then they can play an important causal role in the dynamics of classroom learning. At the same time, it seems likely that these relations should be reciprocal, with academic success and learning outcomes feeding back into individuals' theories about knowledge and knowing. (Hofer & Pintrich, 2002, p. 406)

If he is right, then it is likely that participants' desires to successfully complete a difficult assignment and move on with their lives affected how they approached knowledge within the context of this particular assignment. Making knowledge "certain" meant gaining some measure of control over the learning situation and, perhaps, making it safer, especially in light of their fear of being caught for unintentional plagiarism. Linking personal epistemology to desired academic outcomes would also partly explain why the three literature students, who had at least one more year of school before graduation, held views of knowledge grounded in quasi-reflective thinking.

The drive to make the grade may not have been the only reason why participants approached the assignment as a structured problem. A fairly recent research trend in epistemology theory that bears relevance to my findings has looked at the connection

between personal epistemology and the learning context (Hofer, 2001; Hofer & Pintrich, 2002). Specifically, researchers have begun to explore the impact of instructional practices on students' beliefs and resulting performance. For instance, in their review of research linking students' performance to their beliefs about mathematics, De Corte, Opt' Eynde and Verschaffel (2002) found evidence that what takes place in the mathematics classroom, including the personal epistemology teachers convey through their teaching, affects students' views of knowledge in mathematics and their performance. They noted that "researchers largely agree that many of students' naïve and incorrect beliefs are the consequence of the traditional educational practices that still prevail in the mathematics classroom" (De Corte, Opt' Eynde & Verschaffel, 2002, p. 311).

My study suggests that their findings are not confined to the learning of mathematics. The beliefs that framed participants' use of sources indicated that the instructional and the institutional contexts were factors in their use of sources. Generally, participants' accounts suggested that their approach to the research situation was affected by the instructional context. For instance, most saw their professors as gatekeepers. This belief had an impact on their views of the student-professor relationship: it reinforced hierarchy, with the professor as the authority and knower and the student as a novice and learner. In this relational setup, the burden of meaning-making was the students' responsibility, while the professors assumed the role of judges about their students' ability to gather and present knowledge, about their character (as evidenced by the effort their work demonstrated), and about their intellectual abilities. This hierarchical relationship also implied that meaning-making remained an individual endeavor rather than a dialectical one. This was reflected in the fact that beyond the topic selection stage,

few participants turned to their professors for help. Only the literature students said they discussed the contents of their papers with their professor, who had mandated a research proposal and paper conferences. Other participants who submitted a draft for review in the two other courses were primarily seeking feedback on their use of sources to ensure they would not get in trouble for plagiarism. Participants seeking help with their writing or the content of their papers turned to trusted people who did not have power over them: peers, relatives, former teachers, and the librarian.

The instructional context also affected participants' use of sources. For instance, students identified instructional features that were significant in their decisions to use sources, such as assignment instructions, perceived values, expectations and interests of professors, and recommendations on source type, source number, and citation. There is nothing intrinsically wrong with professors providing specific guidelines on sources appropriate for an assignment or helping students identify appropriate resources for research projects in their fields. In fact, research has shown that source guidelines usually lead students to use better sources in their papers (Knight-Davis & Sung, 2008). However, recent epistemology research has indicated that sometimes, even well-designed instruction can have a negative effect on students' beliefs and performance (Hofer, 2001; De Corte, Op't Eynde & Verschaffel, 2002).

My study suggests that the instructional setting that framed students' information-seeking and citation practices contributed to absolutistic views of knowledge. Business and sports science participants may have interpreted professors' instructions as suggestions that there was a "right" way to approach research and writing, which entailed drawing from the "right" resources to find the "right" sources. Participants' accounts of

their assignment instructions indicated they understood from these directions that meaning-making was a task-oriented, convention-based process that emphasized a dualistic approach to knowledge and positioned them as compilers rather than creators of meaning. This could explain the difference between the literature students and the rest of the participants. Their professor also had restrictions on source types, but she encouraged them to use their opinions and to be engaged in the process of making meaning. These students drew on their own authority and included their own voices.

Connected to the instructional setting was the institutional context, which students believed would support a professor' claim, whether founded or not, that a student had used sources unethically. Participants genuinely believed that their professors had the power to delay their graduation or to get them dismissed. For them, professors were ultimate authorities. Furthermore, participants believed that the college took unethical behavior seriously, and that they would not have opportunities to defend themselves against accusations of plagiarism, even if the plagiarism was unintentional. Students' beliefs about how the institution dealt with plagiarism cases seemed disempowering for them, and may in part have explained the high level of anxiety they described about the possibility of facing accusations of plagiarism and their need for a research writing strategy that would give them a sense of control.

Implications for Professors and Librarians

I now return to my original question: What do students believe a good source is? The short answer from this study is that students' views of sources are connected to their conceptualizations of knowledge. They reflect what they believe knowledge to be and how they see themselves as knowers. If they see academic knowledge as static and

grounded in expertise, they will use expert sources to write papers that leave their voices out. If they see knowledge as contextual and negotiated, they will engage with sources to create meaning.

What makes a good source, then, depends on the context and on the beliefs that students and professors hold about the nature of knowledge in that context. Furthermore, participants' views of knowledge are not just personal constructs they bring to the writing situation. They are also mediated, for better or worse, by the learning context. When professors present knowledge as socially constructed and mediated by the writer, then students are more likely to interact with sources and draw on a variety of perspectives. When professors emphasize expertise and objectivity, students are likely to look for and use sources that present information and not to question these sources.

One implication, then, is that how professors frame research assignments should take into consideration how to foster, rather than constrain, epistemological development. Specifically, it is essential that professors consider what views of knowledge their assignment instructions and teaching convey, and whether these views are compatible with how they expect students to write with sources. Assignments can provide conflicting information about how students are to position themselves as researchers and writers, as I realized when I reviewed a prompt I used in a first-year composition course early in my teaching career. It simultaneously encouraged students to "come to a conclusion of [their] own about the issue," all the while " show[ing] that they know enough about the topic to make a case about it, AND to support [this] case with what the experts are saying." Although I hoped for students to explore a topic in which they were interested, and to learn and teach me about it, these instructions clearly placed emphasis on collecting and

regurgitating information. Furthermore, a later section in the assignment instructed them to "use *authoritative* sources" and suggested they draw on a "variety of source: at least one print source, 2 sources drawn from an electronic database, and *no more than 2 Internet sources*" (Emphasis from the assignment). It conveyed conflicting messages: that students should make their own judgments about an issue, yet only draw from the opinions of experts. Thus, the assignment suggested that what I valued most in the papers they were to write were the voices of authorities, with expertise on the topic they were researching, to the exclusion of their own experiences and observations. Part of the rationale for the prompt was to provide guidance to students about the use of sources in academic writing. However, in retrospect, the assignment also delivered a clear, if unintended, message to students that they did not have the authority to take part in creating meaning.

The learning context should also allow students to claim some authoritativeness on their topics, even if, at first, this authoritativeness is grounded in their own experiences. Students must understand that knowledge is the result of inquiry. They must learn that expertise is not innate but instead hinges on one's willingness to question others and to wrestle with uncertainty. Instruction that projects a view of knowledge exclusively as certain and expert-grounded denies the validity of experiences and observations in making meaning and creates a false image of how knowledge is created. Such a view disempowers writers. With no claims to authority, there is no role for them in creating meaning, and we should not be surprised, then, if their papers read like ad hoc collections of paraphrases.

The learning context should also create opportunities for students to develop rhetorical reading strategies. In this study, few participants reported engaging in in-depth reading of their sources. Yet as Brent (1992) posited in his book *Reading as Rhetorical Invention*, to write with sources, one must understand how knowledge is constructed in sources. Learning how to read scholarly work in their disciplines would help students see how others create knowledge and use sources to make meaning. It may also help them develop a greater awareness of their role as researchers entering a conversation in which their voice has legitimacy, and expand their register of rhetorical functions for the sources they use in their own writing. For this to happen, however, we must shift away from instructional practices that emphasize formatting conventions of citations and avoidance of plagiarism.

Another implication of this study for professors concerns the potential affective dimensions of the writing situation they design. I suggested earlier that students' positioning as knowledge transmitters rather than meaning creators was in part a response to the high stakes of their research assignments. During the interviews, I was very surprised by the fear participants expressed about unintentionally plagiarizing. Because of my experience teaching at the institution, I knew that the stories they were telling me about their professors' handling of plagiarism were likely to be true. Some of these professors did have the reputation of strictly enforcing the plagiarism policy. However, what was surprising here was the level of stress their professors' reputations and in-class exhortations that participants write ethically seemed to have created, and their related impact on how participants incorporated sources in their writing. It suggested that students hear a lot more in our admonitions against plagiarism than we mean for them to.

The result was that they limited their agency just to be safe. When broaching the issue of plagiarism, instructors and librarians should consider what will best serve their purpose: to scare the students, or to provide them with the tools they might need for avoiding unintentional plagiarism, such as learning how to read and make sense of journal articles in their fields.

Limitations of the Study and Suggestions for Further Research

The qualitative nature of this study, and its small number of participants, provides a portrait of one group of writers, each working on one project. A longitudinal study involving several research projects for each participant would have yielded a more complete picture of the role that the learning context plays in the conceptualization of knowledge and its enactment through the use of sources. It would have been helpful, for instance, to find out whether participants showed less absolutistic thinking when looking for sources for projects they saw as less risky. Finally, securing students' individual Reflective Judgment scores to see where they fell on King and Kitchener's (1994) Reflective Judgment model could have helped confirm that their approaches to knowledge were situational.

The setting for the study may have also shaped its results in an unexpected way. The extent to which students complied with their professors' suggestions and requirements was fairly surprising to me, even in light of the fact that their graduation hinged on their success on their research papers. I wondered whether students' compliance and deference to authority could be connected to the study's setting: a small religiously-affiliated school in the Bible Belt. A similar study at a larger, more diverse institution could shed some light on whether students' compliance could be cultural.

A surprising finding in this study was how many participants believed that their opinions and experiences should not be included in their research writing. For them, good research papers needed to be objective and factual, and supported with accurate, professional or expert knowledge. They often traced these beliefs about sources and research writing to instruction they received either in high-school or in their first-year writing course. Their accounts were consistent with Thaiss and Zawacki's (2006) own research in which they found that students used a set of "'Generic Academic' characteristics" to define good writing across disciplines. However, my study also suggested that some of the practices students used for identifying or writing with sources came from coursework in their field. Sport science students, for instance, turned to field-specific search sites. They were also more likely to describe good writing as objective. Literature students, on the other hand, included their opinions in their papers; they were also less averse to the use of first-person pronouns. The difference here may reflect different disciplinary discourse conventions. In any case, it raises questions about the role that instruction within a field of study plays on shaping students' beliefs about sources and how they should be used them to write papers. This is an area I believe needs to be explored, and I suggest three major research strands for doing so.

A first strand would focus on what beliefs about sources students develop in their major field of study. For instance, does the belief that research papers must be objective and opinion-free originate from coursework in the major, or does it originate from previous, perhaps misguided, instruction outside of the major? What do professors believe the purpose of research writing is? What do they believe a good source is? Are these beliefs grounded in their own practices within their disciplines? What are their

expectations for what a research paper should look like? What role does personal preferences play in their expectations of what students should do when they write with sources? How do they convey these expectations to their students, and how do students understand them? As I listened to participants describing what they understood their professors' instructions to be, I often wondered what, if anything, they were leaving out or adding. I believe it would be helpful for teachers to know how students make meaning of the instructions they receive about writing with sources.

A second, related strand of research would investigate ways in which professors frame research assignments, with an eye to what they convey about how students should position themselves as knowers and creators of meaning, It would start a much needed conversation about the ways in which instruction in major coursework can foster the development of writers and help students enter the academic conversation in their fields. As I noted earlier, the most unexpected finding in this study for me was that participants turned their research problems into structured problems, seeking certainty as they looked for and wrote with sources. They also were reluctant to engage with their sources, positioning themselves instead as transmitters of information. In a way, they enacted the position of novice Sommers and Saltz (2004) described in their longitudinal study of the development of Harvard undergraduate writers. Conversely, those participants who selected topics they had cared about for years, and who were prompted by their professor to raise questions and examine opinions, including their own, supported Sommers and Saltz's (2004) finding that students who saw a broader purpose to academic writing than finishing a course or making the grade were more likely to move from a novice position to one in which they are able to claim some authority in their field, a move facilitated by

instruction that placed students "as apprentice scholars" (p. 140). Because of its limited number of participants, my study only uncovered anecdotal evidence of such move. However, I believe it suggests a need for further research on the kinds of instructional activities that can help students become more comfortable with uncertainty and move on from the position of novice research writers.

A third strand of research should explore how professors conceptualize knowledge and what views of knowledge they weave into their teaching and research assignments. Such research could move us closer to understanding the beliefs students hold about the nature and purpose of research writing, and their roles as research writers and knowers. A starting point would be to examine research assignments from an epistemological perspective, looking at what roles they encourage students to assume as research writers. Such research should explore what instructors intend to convey to students through research-writing assignments about academic writing, the use of sources and knowledge, and contrast these intentions with students' reading and understanding of the assignments. Specifically, this strain of research could look at the views of knowledge assignments convey, at the kinds of research they suggest– inquiry or information gathering, and at the positioning they suggest students embrace as they write with sources. It would be helpful to match students' perspectives to their professors', especially in light of epistemological theory suggesting that professors may unknowingly convey views of knowledge that are contrary to the views they want students to develop (Hofer, 2001).

I end this section with two last calls for further research. The first one entails looking at the role that affect plays on students' personal epistemologies. I posited here

that the views of knowledge participants enacted through their use of sources was regressive, that in other situations they understood that knowledge was uncertain, but that the anxiety created by the learning context caused them to resort, either consciously or unconsciously, to a more basic view of knowledge. The role that affect plays in students' personal epistemologies is starting to receive attention. For instance, Bendixen and Rule (2004) recognized that affect can both support and limit epistemic development and proposed a model of personal epistemology in which "affect plays a crucial role at every point" (p. 75). We need more research on the affective dimensions of research instruction and assignments, as well as their impact on students' learning.

Finally, although research writing is inherently about knowledge, few studies have examined personal epistemology in the context of research writing. Yet understanding students' views about knowledge could help professors and librarians identify those beliefs that stand in the way of students' effective use of sources. It could also provide insights about instructional practices that contribute to incomplete understanding of the roles of sources in academic writing and to false beliefs about the students' roles as creators of meaning. More research connecting writers' epistemological beliefs to their research writing practices is needed. Such research should further explore the beliefs that shape students' practices with sources and how these beliefs develop. It should examine what conceptualizations of knowledge our instructional practices convey, in courses and in the library, with an eye to which practices foster epistemological development and which don't.

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Appendix A: Informed Consent Form

Informed Consent Form

Hello,

My name is Corinne Nicolas, and I invite you to participate in a research project I am conducting for my dissertation. This project investigates students' use of sources in college writing and is focusing on students' views on and experience with researched writing.

The only requirement to participate is to have passed ENGL 111 or its equivalent.

What will you be asked to do?

-Participate in a short meeting to discuss logistics.

-Complete at least two entries in an online research diary on Sakai. This should take approximately 5 minutes each time.

-Participate in a 45-minute, face-to-face interview with me, and share a copy of your research paper to me.

What's in it for you?

Learn about your research writing.

Have a chance to help writing teachers better understand what it is like for students to do research.

Get a $15 i-tunes or bookstore gift card after participating in the 45-min. interview.

What's the catch?

Your participation is voluntary. If you decide not to participate, simply drop this sheet in the designated box when you leave class. There is no penalty for not participating.

What now?

If you would like to participate, complete the form below and drop it in the designated box. All information you submit will be kept strictly confidential. Even your instructor won't know you are participating. I may use some of what you share with me in my dissertation, in scholarly articles or at a professional conference, BUT your identity will be kept confidential. Records will be kept for at least three years after collection (That's the law!).

You can withdraw from the study at any time. Simply tell me, and I will destroy any data I collected from you.

Thank you.

Corinne Nicolas, Doctoral Candidate, IUP
865-223-1750/ cnicolas@tusculum.edu

Project Director: Dr. Ben Rafoth
Professor of English, Composition and TESOL
Indiana University of Pennsylvania, Leonard Hall, 11
Indiana, PA 15705
724-357-2263

This project has been approved by the Indiana University of Pennsylvania Institutional Review Board for the Protection of Human Subjects (Phone: 724/357-7730).

Informed Consent form (Continued)

I have read this form and consent to participating in this study. I understand that information/work collected from me will be kept strictly confidential. I also understand that this information will be kept by Ms. Nicolas for at least three years after it is collected.

I have completed my ENGL 111 or equivalent requirement.

Upon signing the form, I understand that I will be contacted by Ms. Nicolas to receive instructions for the research diary.

I also understand that I have the right to withdraw from the study at any time without any adverse consequences. I also understand that if I do not participate in the interview, I will not receive a gift card.

I have received an unsigned copy of this informed consent form for my record.

NAME (PRINT):

Signature:

Date:

Phone number where you can be reached:

TC e-mail address:

Best days and times to reach you:

I certify that I have explained to the person named above how the study will be conducted, what his/her involvement in the study entails, have answered his or her questions, and witnessed his or her signature.

Signature: Date:
Researcher's name: Corinne Nicolas

Appendix B: Profile of Participants

Individual Participant Profiles

Name	Gender	Age	Ethnicity	Academic Status	Major
Christina	Female	22	Caucasian	Senior	Sport Management
Crystal	Female	21	African-American	Senior	Sport Management
Holly	Female	20	Caucasian	Junior	English Literature
Jimmy	Male	22	African-American	Senior	BUSN/ Business Management & Education
John	Male	21	Caucasian	Senior	Sport Management
Lily	Female	21	Caucasian	Junior	English Literature
Matthew	Male	21	Caucasian	Junior	Film and Broadcasting
Michael	Male	22	African-American	Senior	Sport Management
Monique	Female	21	African-American	Senior	Business Administration / Accounting
Richard	Male	26	Caucasian	Senior	Sport Management
Ricky	Male	22	Hispanic	Senior	Business
Roxane	Female	21	International	Senior	Business Management
Samantha	Female	21	Caucasian	Senior	Business and Visual Arts (Independent)

Appendix C: Questionnaire 1

Hello!

Thank you for completing this research diary. There are no right or wrong answers here. What I am interested in is *your opinion* on finding sources! I will use your responses for the study I am conducting for my dissertation on research-based writing.

All your answers will be kept confidential. When I write my dissertation, I may quote from your answers. However, if I do so, I will not use your real name, so that you cannot be identified.

1. What is your first name?

2. What is your gender? Male Female

3. What is your status? Freshman Sophomore Junior Senior

4. What is your major?

5. Which of the following courses did you take?

a. ENGL 111 at Tusculum College
b. HIST at Tusculum College
c. A composition course at another institution

6. When is the last time you looked for sources at the library for a course assignment? (Circle one)

a. In the last course I took.
b. Within the last semester.
c. Last year.
d. I don't remember.

7. Consider the courses you took in the *past year*. How often did you write *research* papers in these courses? (Check one)

a. In every course.
b. In the majority of my courses.
c. In few courses.
d. I was never asked to write a research paper.

8. Consider the courses you took in the *past year*. How often did you have to find sources? (Check one)

a. In every course.
b. In the majority of courses.
c. Rarely.
d. Never.

9. In courses that required a research paper, what was the length requirement for the paper? (Circle one.)

a. Fewer than 3 pages.
b. 3-5 pages
c. 5-10 pages
d. over 10 pages

10. When you look for sources for a course, which of the following do you typically use? (Circle all that apply.)

2. Tusculum Library research databases
3. Tusculum Library online catalog
4. Local public library
5. Google
6. Yahoo
7. Wikipedia
8. Google scholar
9. Other:

11. When you look for sources for a course, which of the following do you search first?

a. Tusculum Library
b. Local public library
c. Google
d. Yahoo
e. Wikipedia
f. Other:

12. Rank the following criteria for selecting sources for how important they are to you when you conduct research (1 most important- 11 least important)

____ The source visually looks good.
____ The title used my keywords/topic.
____ The source was short.
____ The author's credentials seemed impressive.
____ It was peer-reviewed.
____ It was interesting to read.
____ It was published recently.
____ It came up right away.
____ I agreed with the source.
____ Somebody told me it was a good source.
____ I was familiar with the author.

13. Which of the following is most like your reason for deciding whether a source can be trusted? (Circle one.)

a. I've experienced what it says before.
b. I've heard what it says before.
c. I was raised to believe the same way.

d. The source provides convincing evidence.
e. The source agrees with what other sources are saying.
f. It looks like it can be trusted.
g. I trust the place where I found it.
h. I've heard of the source before.
i. Somebody told me this source was good.

Thank you! You are done for today!

Appendix D: Questionnaire 2

Welcome! Thank you for taking this short survey. It should take you 5 minutes at most. There are no right or wrong answers here. What I am interested in is knowing how you went about finding sources. All your answers will be kept confidential. Only I can link your answers to you, and this is so that I can ask for clarifications during our interview later on. When I write my dissertation, I may quote from your answers. However, if I do so, I will not use your real name, so that you cannot be identified. To participate, just check the Checkbox below. If you no longer want to participate in my project, just close your browser. This will not affect you adversely. If you have questions, you can call me at 865-223-1750 or send me an email at cnicolas@tusculum.edu Thanks. Corinne

What is your first name and the first letter of your last name?

Thinking of the last time you conducted research for your project, which of the following resources did you search? (Check all that apply)

a. Library research databases
b. Library online catalog
c. Local library
d. Google
e. Yahoo
f. Wikipedia
g. Google scholar
i. Other

Describe what kind of information you were hoping to find.

This project has been approved by the Indiana University of Pennsylvania Institutional Review Board for the Protection of Human Subjects (Phone: 724/357-7730).

Thinking back to the resources (site or database) you accessed last time you did research, explain why you decided to search these resources:

Approximately how long did you spend doing research for your paper?

If you consider all the sources you looked at during your research, what percentage did you think would be useful for your paper?

a. The majority of sources fit the needs of my paper.
b. About half of the sources fit the needs of my paper.
c. The majority of the sources did not work for my paper.
d. I stopped looking after I found the number of sources required for my paper.

How many times did you conduct research for this paper?

a. I did all my research in one setting.
b.I did my research in several settings before I started writing my paper.
c. I did research, started writing my paper, then did more research.
d. I wrote my paper, then I did research to find sources.

Which of the following was a reason you used to select sources? Check all that apply.

a. The source visually looks good.
b. The title used my keywords/topic.
c. The source was short.
d. The author's credentials seemed impressive.
e. It was peer-reviewed.
f. It was interesting to read.
g. It was published recently.
h. It came up right away.
i. I agreed with the source.
j. Somebody told me it was a good source.
k. I was familiar with the author.

This project has been approved by the Indiana University of Pennsylvania Institutional Review Board for the Protection of Human Subjects (Phone: 724/357-7730).

Think of the best source you found for your paper. What is its title and where did you find it?

Think of the best source you found for your paper. Which of the following is most like your reason for selecting it?

a. I've experienced what it says before.
b. I've heard what it says before.
c. I was raised to believe the same way.
d. The source provides convincing evidence.
e. The source agrees with what other sources are saying.
f. It looks like it can be trusted.
g. I trust the place where I found it.

What are two ways in which you determined that a source was a good source for your paper?

Appendix E: Interview Questions

Interview questions

First I wonder if you could tell me a bit about you:
What is your major, how long you have been a student here, How much experience did you have writing research papers before taking this class…

Tell me about your research paper. What do you like best about it?

What did you find most challenging in putting it together?

What advice, if any did your instructor, give you about completing this assignment?

You had to do research for this paper. How did you go about it?

How did you know when you had enough sources?

Generally speaking, how would you define what a good source is?

Let's talk about how you used your sources in your paper.

What were your guiding principles for deciding which sources you were going to use in your paper?

Which source would you say is the best one? Why?

Let's look at the annotations you made on your paper. How did you decide when and why to use a source.

How did you decide whether you should quote or paraphrase?

Finish this statement:
Writing a research paper is like …

Appendix F: Coding Categories

BELIEFS DURING THE SEARCH PROCESS

- SEARCH STRATEGY
  - CHALLENGES
    - Counterpoints
    - Currency
    - Definition
    - Other
    - Overload
    - Prior experience
    - Source number
    - Source type
    - Time
    - Types
  - FRAMEWORK
    - Factor
    - Requirements
    - Source number
  - PROCESS
    - Completion
    - Drawbacks
    - Keyword search
    - Recursive
    - Other
    - Reading
    - Resource
    - Starting point
    - Topic selection
  - REFLECTION
    - On process
    - Self as resource
    - Prior beliefs
    - Unknown
    - Feelings
    - On challenges
    - On learning
    - On skills
    - On knowing

BELIEFS DURING THE SEARCH PROCESS (Continued)

- SEARCH STRATEGY (Continued)
  - RESOURCES
    - Databases
    - Internet
- SOURCE SELECTION
  - EXTERNAL INFLUENCES
    - Course requirements
    - Credibility
    - Feelings
    - Instructor role
    - Occurrence
    - Other sources
    - Prior beliefs
    - Prior experience
    - Ratings
    - Source number
    - Librarian role
    - Topic selection
  - INTERNAL FEATURES
    - Authority
    - Content
    - Credibility
    - Topic
    - Resource
    - Topic selection
    - Types
    - Word use
  - SEARCH FEATURES
    - Abstract
    - Citation trail
    - Credibility
    - Currency
    - Features
    - Authority
    - Full text
    - Looks
    - Titles
    - Types
    - Word use

BELIEFS DURING COMPOSING WITH SOURCES

- CORE BELIEFS (ABOUT)
  - AUTHORITY
    - And voice
    - and professor
  - CITING
    - And facts
    - And voice
    - And credibility
    - And fear
    - And flexibility
    - And purpose
    - And organization
    - And quoting/ paraphrasing
    - And resistance
    - And personal beliefs
  - SELF
    - And authority
    - And sources
    - And credibility
    - Description
    - And low self-efficacy
    - And outcome
    - And Voice
  - WRITING
    - And Literature Review
    - And facts
    - And source incorporation
    - As conversation
    - And expectations
    - And organization
    - And first-person use
    - And opinions
- DESIRED OUTCOMES
  - AUDIENCE-BASED
    - Description
    - Professor
    - Skills validation
    - To argue
    - To be original

BELIEFS DURING COMPOSING WITH SOURCES (Continued)

AUDIENCE-BASED (Continued)

- To challenge
- To communicate
- To engage
- To follow instructions
- To impress
- To inform
- To persuade
- To share
- To show sides

PERSONAL

- Authority
- To learn
- To make the grade
- Organization
- Perception_ Character-based
- Perception_ Content based
- Thinking
- Perception_Style-based
- To model
- Completion
- Validation of effort

EXTERNAL INFLUENCES ON BELIEFS

ASSIGNMENT

- Format
- Instructions
- Literature review

AUTHORITY FIGURE

- High-school teacher
- Librarian
- Professor authority

PEERS

- Feedback

BELIEFS DURING COMPOSING WITH SOURCES (Continued)

- MOTIVATION
  - COMPLIANCE
    - Assignment
    - Coherence
    - Knowledge validation
    - Redundancy
    - Requirements
    - Writer credibility
    - To show coverage
    - To synthesize
  - DEFINITIONAL
    - Character-based
    - Content-based
    - To sound academic
    - To sound intelligent
    - To sound professional
  - OWNERSHIP
    - Character-based
    - Purpose
    - Through paraphrasing
    - Resistance and authority
    - Use of sources
    - Thinking
    - To be original
    - To create new knowledge
    - To elaborate
    - To show interest
  - UNSTATED
    - Low self-efficacy
    - Quoting and paraphrasing
- SOURCE-USE POSITIONING
  - AUTHOR
    - Connecting sources
    - To engage
    - Description
    - Organization
    - Relevance
    - To argue
    - To elaborate

BELIEFS DURING COMPOSING WITH SOURCES (Continued)

AUTHOR (Continued)

- To emphasize
- To engage
- To establish authority
- To establish credibility
- To explain
- To focus
- To frame paragraphs
- To introduce
- To share
- To explain

FEELER

- Fear
- Feels right

COMPLIER

- To meet requirements
- To follow instructions
- Valid

LEARNER

- Quoting/paraphrasing
- To help writer
- To question
- To show knowledge
- To understand

TRANSMITTER

- Key point
- To answer
- To confirm
- To define
- To explain
- To illustrate
- To inform
- To introduce
- To present facts
- To present opinions
- To recall
- To support

BELIEFS ABOUT GOOD SOURCES

- SELECTION CRITERIA
  - SOURCE-BASED CRITERIA
    - Coverage
    - Credibility
    - Looks
    - Organization
    - Length
    - Amount of data
  - EXTERNAL CRITERIA
    - Instructor
    - Prior experience
    - Search-based
    - Implied credibility
    - Resource-based
    - Context
  - WRITER-BASED CRITERIA
    - About topic
    - About truth
    - About role of writer
    - About use of sources in writing
    - About plagiarism
- SOURCE FEATURES
  - AUTHOR CREDIBILITY
    - Sounds knowledgeable
    - Author's Education
    - Author's Experience
    - Credentials
    - Not considered
  - CONTENT
    - Well-researched
    - Authority
    - Validity
    - Matched personal beliefs
  - CHARACTERISTICS
    - Peer reviewed
    - Good publisher
    - Current
    - Bibliography

BELIEFS ABOUT GOOD SOURCES (Continued)

CHARACTERISTICS (Continued)

- Readable
- Writing style
- Challenges
- Search Order
- Looks

PROVENANCE

- Database
- Journal Publication
- Library source
- Type
- Contextual

FUNCTION OF SOURCE

- To define
- To explain
- To illustrate
- To respond to
- To show
- To start paper
- To summarize
- To impress

Appendix G: Paper Analysis Checklist

Paper Type	Literature review Argument
Paper Length	Word count: Number of pages:
Source Occurrence	Number of sources: Number of citations:
Source Types	Books: Professor: Article: Interview: Review: Pictures: Film or song: Website:
Source Authority	Number of authoritative sources: Number of popular sources:
Use of sources	Number of paraphrases: Number of quotations:
Intention Behind Use of sources[2]	Positioning Broadening Preparatory Terministic
First-Person Pronoun use	Yes No
Attributive Tags	
Comments	

[2] Descriptors borrowed from Anson (2004)

Appendix H: Descriptors for Rhetorical Function of Sources

1. To add your voice
2. To answer research questions
3. To ask questions
4. To back points up
5. To bring expert voice
6. To build on others' voices
7. To connect to thesis
8. To convey a point
9. To define
10. To define term
11. To describe and explain point
12. To elaborate
13. To establish authority
14. To establish credibility
15. To explain
16. To explain the issue
17. To focus on point rather than description (Visual)
18. To illustrate
19. To inform reader
20. To inform writer
21. To introduce important point
22. To introduce topic
23. To make an argument
24. To persuade audience
25. To present different views
26. To present facts
27. To present opposite side (dialogue)
28. To provide background information
29. To provide visual description
30. To reaffirm thesis
31. To recall
32. To save space (Visual)
33. To share new perspective with readers
34. To show fact
35. To support a point
36. To support opinion
37. To tell stories

Appendix I: Examples of Use of Sources in papers

Rhetorical Function: To support/ To illustrate

Hosting a mega-event can either have a tremendous positive or negative economic impact on the hosting country. According to Miller (2001) "In Germany, for example, it is likely that parts of the next two World Cups of soccer will only be available locally on pay TV, after the European Broadcasting Union, a consortium of public network, was outbid by Kirch and Sporis in 1996. (Miller, 2001). Based off this prediction I was able to assume that the hosting country would be greatly affected by the outbidding of the public television network. (Crystal)

The 2008 financial crisis affected the economy of the United States and changed history forever. As Earle (2009) explains, "the 2008 global financial crisis can be compared to a once-in-a-century credit tsunami a disaster in which the loss of trust and confidence played key precipitating roles and the recovery from which will require the restoration of these crucial factors" (p. 1). (Roxane's paper)

The financial sector, in conjunction with the government, caused the financial crisis. According to *Fault Lines: How Hidden Fractures Still Threaten the World Economy*, the government was concerned about the growing inequality of incomes between the 90^{th} percentile earners and the 10^{th} percentile earners. The government decided to combat this problem by making credit easier to obtain by lowering interest rates. They also passed the Federal Housing Enterprise Safety and Soundness Act, which promoted homeownership for low-income and minority groups with the formation of the Department of Housing and Urban Development (HUD). The government funded these programs and made them attractive to the banks. (Rajan, 2010). (Monique's paper)

Rhetorical Function: To define

The second multiplier is what is Matheson decided to use in his study. " Economic impact analysis is generally done by estimating attendance to an event, surveying sample of visitors as to their spending associated with the game or convention, and then applying a multiplier to account for money circulating through the economy after the initial round of spending"(Matheson, 2009) (Crystal's paper)

Derek Collins explains in his article "Nature, Cause, and Agency in Greek Magic," that the Greek world was one "in which magic is invoked by observers as an explanation for disaster or as a hedge against failure" (19). (Holly's paper)

According to Dowd 2009, pg.1), companies will display moral hazard by selling someone a final product knowing that it isn't in their interest to buy it. Companies will give themselves excessive bonuses and allow someone else to take fall for their mistakes. Moral hazard is only the beginning of financial crisis. Moral hazard only led up to this economic disaster (Dowd, 2009, pg.1). (Jimmy's paper)

As quoted by C. Richard King (2005), "Whiteness is simultaneously a practice, a social space, a subjectivity, a spectacle, an erasure, an epistemology, a strategy, an historical formation, a technology, and a tactic. Of course, it is not monolithic, but in all of its manifestations, it is unified through privilege and the power to name, to represent, and to create opportunity and deny access." (John's paper)

The most common distinction made is between policies of integration and assimilation. Integration in this context is defined as the process whereby a minority group adapts itself to a majority society and is accorded equality of rights and treatment; while the term assimilation is used in relation to the absorption of ethnic minority and immigrant population cultures into the cultures and practices of the host society (Henry 2005). (Michael's paper)

According to the U.S. Department of Housing and Urban Development, "predatory lending is a term used to describe a wide range of unfair financial practices (2011). Predatory does not benefit the homeowners(Brown House Media, Inc., 2011). (Samantha's paper)

Rhetorical Function: To introduce a point

Joseph Campbell explains the idea of the cookie cutter hero in an interview with Bill Moyer, later transcribed into *The Power of Myth*. He talks about the heroes' journey and how even today the same themes continue to pop up and follow a similar plot as though it were some kind of generic template. He gives many examples through the interview ranging from John Wayne to Luke Skywalker, the eternal good guy who is infallible and will always win the fight. How often are you at the movie theatres enjoying your over priced snacks when you begin to predict what is going to happen next in the film because it's a story we have seen over and over again. (Matthew's paper)

VanAmberg shed some light onto the subject, "There were some mythological exceptions, of course, Athena-goddess of war; Artemis-goddess of the hunt; and the Amazons-women warriors residing somewhere to the east."(VanAmberg). I agree with him there as well. But I wonder if the stories were all female warriors how this would change our way of life. (Matthew's paper)

The study showed us why host countries may portray meg-events as money makers; but from this study we are going to be able to see the loop wholes to the system. (Crystal's paper)

(Matheson, 2011) goes on to give us scenario so that we can see the inaccurate value of the multipliers for example scenario one shows us that there is leakage. . "Income earned by capital owners(or stockholders) who do not live in the city in which the hotel is unlikely to be respent in the local economy in comparison to wages earned by local labor. Revenues that flow out of an economy after an initial round of spending are typically referred to as "leakage" (Matheson, 2011) (Crystal's paper)

As Kobliner (2009) states, "All you needed was to fill out some papers, come up with a tiny down payment (or maybe none at all), and you were a homeowner. It was that simple, and it ushered in the biggest housing boom in history" (p.168). Consequently, this raises several questions: Who was supervising and regulating these loan approvals? If any, who and how were these regulations enforced? Did this regulation flexibility benefit the provider or the consumer? (Roxane's paper)

Rhetorical Function: To elaborate

According to Joseph Campbell in *The Power of Myth,* magic is "an attempt to control nature" (23). This definition is missing something, an omission that makes magic seem more domineering than it truly is. A more complete definition can be found in Gerina Dunwich's book *Everyday Wicca: Magickal Spells Throughout the Year.* (Holly's paper)

I disagree with this view, however, based on my own experiences with magick. There are several different types of magick, many of which focus on some type of craft to channel energy. (Holly's paper)

I asked Dr. Joel VanAmberg about the subject and his response was, "the idea of the hero is bound up with classical concepts of maleness, especially ideas of courage, physical prowess, and craftiness. The idea of a woman who took up arms and accomplished great feats of overcoming enemies, displaying physical strength, and conquering territory, would have made little sense in classical Greek culture where respectable women (except in Sparta) were ideally to be kept cloistered in the home."(VanAmberg). Historically he's right. (Matthew's paper)