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The Research Process

WHY DO RESEARCH?

Researchers are curious. They wish to know the *why* or *how* of an issue, and they hope the findings of their research result in additional knowledge and, perhaps, even make a difference. Being a researcher means seeing more intensely. Research also has the power to change people. It can be, in fact, a transformative experience, as the investigator is empowered to pose questions, design studies, investigate, report on results, and recommend alterations in policy or practice. Thus, research adds to the knowledge base of the field of study and has the potential for significant impact.

Hardly anyone worries about polio now, as the vaccination Dr. Jonas Salk developed in 1955 meant people could avoid the devastating disease. But prior to 1955, polio literally terrorized the nation, reaching epidemic proportions with almost sixty thousand cases in 1952. Many people died or were crippled for life. Some were placed in machines called iron lungs that helped them breathe, as they could not breathe on their own. As a child, I watched a television show that featured an adult in an iron lung. Talk about claustrophobia. The disease affected children primarily, but adults, like Franklin D. Roosevelt, were also victims. The subject of Andrew Wyeth's painting *Christina's World* was a polio victim. The well-known violinist Itzhak Perlman performs sitting due to the debilitating effects of the disease. Dr. Salk began working on a vaccine in 1948. When it proved successful, he was hailed as a hero, yet he refused to profit by taking out a patent on the drug.

While Dr. Salk's research was scientific, the current research that seeks to eradicate polio worldwide is sociocultural. It seemed at one time

that polio could be completely eliminated; however, lore about the vaccine permeated some rural areas around the globe, particularly those populated by people with Muslim beliefs, that the vaccine would hurt children. As a result, hundreds of cases still appear. But with researchers working through community and religious organizations to educate leaders about the devastating effects of the disease and the value of the vaccine, the number of cases is decreasing in some areas of the world, a hopeful sign.

Humanistic research plays a role in the fight against polio, too. Technical communicators design appropriate technical documentation to educate and inform community members. Researchers such as Rebecca Walton note that standard technical documentation that puts the facts forward to users may not be effective. Instead, technical communicators do a needs assessment of the issue and then design appropriate documentation for the specific purpose. This may include showing people in familiar garb and surroundings. Such an approach brings the situation closer to being recognizable by users. The power of narrative and storytelling may also be evoked in effective documentation. Walton (2013; Walton, Zrally, and Mugengana 2015) works in user-centered design, and her particular interest is enhancing technical communication in third-world countries.

Researchers are working at this very minute trying to find cures for Alzheimer's disease, cancer, and even the common cold. Research in health-related issues is a high priority for any nation, as it contributes to economic, social, and personal well-being. The United States is known particularly for its research in health, defense, technology, energy, and space exploration. And, over half the nation's basic research is undertaken at its colleges and universities.

Students who engage in research are helping to ask questions and solve problems in a wide range of fields. This is important work. In addition, students benefit in multiple ways. Undergraduate research has been identified as a "high impact" practice by researcher George Kuh (2008, 20) and his team, who, through the National Survey of Student Engagement (NSSE), found that many colleges and universities provide research experiences for students in all disciplines. Students' early and active involvement in systematic investigation and research offers a "sense of excitement that comes from working to answer important questions." Students grapple with "actively contested questions, empirical observation, and cutting-edge technologies."

Personally, students gain tremendously when engaging in research. The following attributes have been substantiated by researchers such as David Lopatto (2009) and Laursen et al. (2010). Student researchers benefit by

- experiencing the rewards of designing a project, making discoveries, and sharing findings;
- understanding some of the ways in which research differs across disciplines;
- increasing ability to think, learn, and work independently;
- strengthening oral and written communication skills;
- sharpening critical thinking skills;
- developing close relationships with faculty mentors;
- preparing for graduate school;
- getting work published;
- traveling to conferences and working with people who share their interests;
- enhancing a resume;
- participating in and contributing to the life of their chosen field.

Participation in research has the capability of increasing students' sense of responsibility and independence, yet it provides experience in learning to work as members of a team when a project is done collaboratively with other students or with faculty mentors. It can also help clarify career goals. Is this what I wish to do with my life? And even if the subject matter differs from the postgraduation job, research skills are transferable to other settings. Employers consistently cite good communication skills, problem solving, facility with technology, and the ability to work with others as highly valued attributes.

WHY DO RESEARCH IN WRITING?

Charles Bazerman (2007) argues that the study of writing is the study of "how people come to take on the thought, practice, perspective, and orientation of various ways of life; how they integrate or keep distinct those perspectives in which they are practiced; and how we organize our modern way of life economically, intellectually, socially, interpersonally, managerially, and politically through the medium of texts" (35). Throughout history, to be literate has been key to a person's success. Writing is not only about personal success but also about a person's well-being. It can be used to discover oneself, to write one's way through problems, and to communicate feelings.

Writing is what makes us human.

Important studies in writing have changed the way writing is taught from an emphasis on *product* to an emphasis on *process*. They have also helped teachers understand how students become literate or why they make errors. These studies have argued for valuing alternative voices. They have explored digital environments and the intersections of technology and rhetoric. They have gone outside academe to explore writing in business settings. They have analyzed how writers collaborate.

Writing studies is a capacious field. Researchers do not necessarily need to be studying or majoring in English. Writing belongs to everyone. A psychology major can study the differences in writing done by clinical and research psychologists, a premed student can study how physicians use information technology to improve communication with patients, a business major can study how a hotel chain uses comments on customer feedback forms in its reports or in the employee newsletter, a student in ethnic studies can research newspaper representations of local civil-rights activists.

So many topics call to the researcher for investigation: authorship, collaboration, intertextuality, visual rhetoric, digital and multimedia platforms, narrative, storytelling, gender and writing, race and writing, social class and writing, writing and power. The possibilities are really limitless.

THE RESEARCH PROCESS

The goal of this textbook is for students to engage in *authentic* or real research. You may have experience in writing research papers that draw exclusively on others' previous research. Much of "school" research looks at what is termed *secondary* research sources. This is material written about others' research. *Primary* research resources are the original studies or documents. For instance, if you were to study tribal-school diaries housed in a special collections or archives, you would be looking at primary documents. Your writing about these diaries then becomes primary research. When another scholar incorporates your work into an analysis, that is *secondary research*.

Writing academic research papers, whether in secondary school or college, has the benefit of introducing the research process to the writer and providing practice in the skills of finding information and citing sources. In some cases it can be seen as regurgitating information found in common sources such as *Wikipedia* or popular media. These can be valuable foundational experiences. Please understand that the research you will do as a result of reading this book differs. The goal is to produce research that contributes to our understanding of writing studies.

Research is considered to add new knowledge and as such is termed a *discovery activity*. This means information is collected systematically and then analyzed for *findings*. These findings can influence practice and policy. For some researchers a study is not so much about discovering new knowledge as about adding to the conversation; it may take compiling several studies before new knowledge is discovered.

The overarching goal is for research to meet *RAD* criteria: *replicable*, *aggregable*, and *data supported*. Let's look at each of those terms. *Replicable* means another researcher can repeat the study and get the same results. This lends to the study's *validity*. *Aggregable* means the study can

be associated with others or compiled to arrive at even richer interpretations. In other words, it fits in with a group of studies. *Data supported* refers to the fact that the study draws on evidence, usually quantitative evidence, that supports the conclusions made by the research.

The hope is that research offers the opportunity to generalize from specific instances. Most research contributes to *generalizable knowledge*. How can the results have an effect on, let's say, another college not in the same state? Federal regulations define research as a "systematic investigation, including research development, testing, and evaluation designed to develop or contribute to generalizable knowledge." Some qualitative studies that may not directly "contribute to generalizable knowledge" are still research. In addition, course research assignments conducted by students may be research even if they are limited in scope. Generalizable knowledge is knowledge "expressed in theories, principles, and statements of relationships" that can be widely applied to our experiences (Code of Federal Regulations 2009). Generalizable knowledge is usually shared with others through presentations and publications. Audience members or readers of the research may experience a flash of recognition and say, "Oh, that has implications for my own work."

The research process is a series of stages. But as Flower and Hayes (1981) found with the writing process, it's not just prewriting, writing, and rewriting. It's a *recursive* process in which the writer loops back to earlier stages. While the research process is more complex than writing an essay, it has that same characteristic of recursiveness. The project may be reviewed and revised numerous times before it reaches its conclusion. Think about it as a looping process, constantly winding back on itself. A misperception among novice researchers is that experienced researchers never make a misstep. That is simply not true. Expert researchers have become skilled through practice and feedback from mentors.

Ranjit Kumar (2014, 34) offers an "eight-step model" for the research process. As he remarks, "The eight steps cover the complete spectrum of a research endeavour, from problem formulation through to writing a research report." The figure below summarizes the eight steps with the use of arrows.

While a step-by-step guaranteed process would be ideal, and Kumar's model is helpful, fortunately or unfortunately, that's not the way it works in real research. Researchers experience failures, they change their minds about design based on information gained in the process, they decide the study is operationally flawed. *Recursiveness* is common, and the student researcher should not feel discouraged if a project does not truly follow step by step to success. As teachers, we sometimes simplify such processes for novices, as we don't want research to seem overwhelming, but the nature of authentic research in which the researcher reassesses throughout can strengthen the final results.

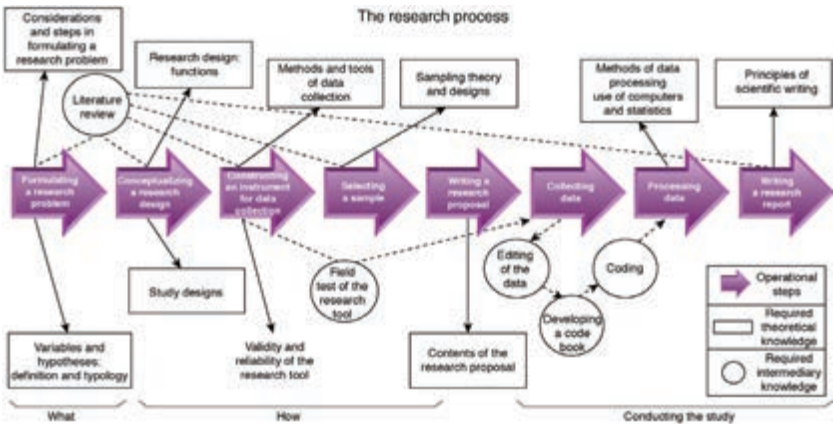


FIGURE 1.1. Kumar's process of researching.

Profile of a Student Researcher: Sara Calicchia

To illustrate how a researcher uses recursiveness to advantage, let's look at Sara, a student who was enrolled in an honors seminar on researching writing with special attention to writing in the disciplines. Sara was majoring in equine science, and she had represented the university in the National Equestrian Challenge. She also worked in the ruminant nutrition laboratory. She was able to study the digestive system of a cow that has been surgically fitted with a cannula, which is similar to a port-hole that allows access to the rumen. She was focusing on epigenetics for her undergraduate honors thesis. With that background, I assumed Sara would be interested in doing a project focused on scientific writing. I was rather surprised that, instead, she was curious about how music affects writers. She knew music was important to her own composing process and wanted to investigate whether that were true for others.

Sara conducted a case study through interviews with twelve subjects—nine professors and three students at her university in the fields of English, biology, and history. Through her research she determined that experienced writers tend to prefer silence or white noise to lyrical music to produce their work. These results show that some of the problems students may find with writing may stem from an overwhelming number of distractions hindering their writing abilities. Sara's progress did not necessarily flow in a step-by-step progression. Although she carefully crafted her interview questions, she found that she needed to return to her participants for a follow-up question about their own ability to play a musical instrument. And, she made a late-stage breakthrough in understanding her project when she returned to review further literature, finding an important article on "environmental self-regulation" that she said

was enlightening and changed the way her final report was conceived and structured.

Sara disseminated her research in three venues: the state conference on undergraduate research, the National Conference on Undergraduate Research (NCUR), and *Young Scholars in Writing: Undergraduate Research in Writing and Rhetoric* (YSW). The process for publishing her research report reveals that even when an essay is accepted, revisions can continue. “To ‘Play That Funky Music’ or Not: How Music Affects the Environmental Self-Regulation of High-Ability Academic Writers” was revised dramatically for publication. YSW has a system whereby an editorial board member is assigned to authors whose work is accepted by the journal. Sara received a detailed message about her submission; it read in part,

The reasons we liked your piece so much have to do with its subject of study, your intriguing methodological approach to that study, the quality of your literature review, and the well-structured organization of the piece, which was therefore highly readable and interesting. Personally, I have a long-running fascination with the relationship of music and writing and the role of music for various writers in the writing process—it’s an important area of study, definitely underdeveloped, and your article will truly be able to contribute to the field’s knowledge on this subject. Your idea for comparing, through careful surveying/interviewing, faculty writing habits and undergraduate writing habits, and the way that you lay out the results in your piece, is really smart and works well for the kind of knowledge you’re trying to develop. And you did an unusually good job of locating your study within existing conversation in the field, including beautifully setting up the open question of why some studies show music as an impediment while others show music as enhancing the thinking that underlies the writing process. In short, many excellent qualities come together to make this piece attractive to us at YSW, and suggest that with development in some other areas, it will be a terrific addition to this volume.

Working with this mentor, Sara spent some time in revising her essay, and it was published in volume 11 of YSW, much to her delight. It has become an important part of her portfolio as she looks to graduate study in biomedical science.

Student Activity**READING**

“Anatomy of an Article: How an Undergraduate Researcher Turned a Passionate Project into a Published Essay” (Source: http://kairos.technorhetoric.net/16.1/topoi/zabielski-janangelo/Anatomy_of_an_Article/Part_1.html)

Sara’s story of how she embarked on a research project in writing studies that eventually appeared in a peer-reviewed journal is necessarily brief. For a more detailed case study of a similar student, read Joseph Janangelo’s case study, which appears in the online journal *Kairos* (Janangelo 2010–2011). The article demonstrates beautifully how the researcher’s own intellectual development was enhanced through his work and the give and take with mentors. Janangelo’s interview methods also come to the fore. This essay also serves as an example of a case study, which is one of the approaches addressed in this textbook.

Finding and Defining Questions

Researchers are curious and ask questions. Here are some questions that have been asked—and answered—through research.

- What makes writers anxious, creating writer’s block, and how might this anxiety be measured (Daly and Miller 1975)?
- What kinds of writing are students in secondary schools asked to do (Langer and Applebee 2007)?
- What is the history of writing across the curriculum, and how does contemporary practice reflect historical origins (Russell 2002)?
- Can the architecture of a writing center have an effect on the efficacy of tutoring (Hadfield et al. 2003)?
- How do nontraditional students differ from traditional students, and what effect does that difference have on teachers or tutors (Hirschi 1996)?
- What are trends in website design (Kator 2000)?
- What do beginning graduate teaching assistants believe about their students’ writing (Dryer 2012)?
- What do *rhetorical heirlooms*, such as grocery lists and menu planners, say about women’s roles (White-Farnham 2014)?

While some of these questions have been posed by professionals in the field (Daly and Miller 1975; Dryer 2012; Langer and Applebee 2007; Russell 1990, 2002; White-Farnham 2014), others have been posed by students. Charlene Hirschi (1996) asked how she, as a reentry student and tutor, brought special understanding to working with nontraditional students. Leslie Hadfield et al. (2003) and two students in interior design used their combined expertise to design an ideal writing center. And Corinne Kator (2000) wrote her honors thesis on trends in website design circa 2000. While trends in website design is a topic that is addressed frequently, the results also change regularly. On the other hand, before the Hadfield project on writing center architecture, no other researchers had undertaken this question. It is entirely possible for a student to be first in addressing a question.

Student researchers are no doubt already aware of *problems* or *questions* to be addressed through their own experiences. The problem, which may involve a specific situation, phenomenon, or a classroom, for instance, can then be explored, described, and analyzed. Recall that Sara was curious about the role of music in purposeful writing, which led her to a question outside herself.

Student Activity



THE WRITING AUTOBIOGRAPHY

To begin to study writing, it's helpful to analyze one's own writing and writing processes. This is also called *autoethnography* and draws upon participant-observation tools for gathering information. Ethnography is a social sciences approach to studying peoples and cultures. In contrast, *autoethnography* focuses on the researcher's personal experiences and includes self-reflection and analysis. The *auto* in *autoethnography* is just like *auto* in autobiography, referring to the self. That analysis can then be examined to look for connections to larger culture. Following are guidelines to help you begin to do just that.

Part 1

Write an autobiography in which you think about the story of you as a writer. This project may be an opportunity to query your family about your early writing habits. Such opportunities to reminisce are almost always welcome.

Here are some questions to help you think of possible directions to take in your essay.

- What are your earliest memories of writing?
- Did you have toy writing implements? Real writing implements? Were you a pencil collector?
- Did you write poetry?
- Did you put out your own newspaper?
- Did someone guide you in writing?
- What was school writing like for you?
- When did you transition from learning to write to writing to learn?
- What are good memories about writing? Not-so-good memories?
- Did you have readers of your writing who provided feedback?
- Do you like to write for particular audiences?

Bring the autobiography to the present and consider

- how you feel about writing;
- anything that's difficult for you about writing;
- things about the writing you have done in the past year(s) that were successful for you or that you liked;
- things about the writing you did in the past year(s) that you didn't like or that were not successful for you;
- any goals you have for yourself in writing this year.

Part 2

Using the following list, write about how you write. You may use any or all of the questions to stimulate your thinking about your writing processes. Do include other topics not listed here. You do not have to address these in any particular order.

- Where do you write?
- Do you have a certain body position?
- Do you need background noise (e.g., music, television)?
- Do you need a certain kind of paper?
- Do you have a favorite writing instrument?
- What kind of technology do you use?
- Do you ask others for help?
- What time of day do you like to write?
- What must happen before you are able to begin writing?
- How do you handle interruptions or breaks?
- Must you be alone or with others?
- Does correctness—spelling or punctuation—affect how you write?
- Are you concerned about neatness?

TABLE 1.2. Sample—Samantha's writing log—*continued*

<i>Date</i>	<i>Academic Writing</i>	<i>Nonacademic Writing</i>
Feb. 4	NTR Engl 6610 Note-taking in class (NTC) Engl 6610 NTC Engl 6810 Practice quiz Engl 6350 Notes for discussion Engl 6350 Notes in writing center Form completion in writing center	Google Translate Texting (7 sent) E-mail (3 sent) To-do list
Feb. 5	NTR Engl 6610 Writing lesson plans Writing notes on dry erase board Grading, writing feedback NTR Engl 6350 NTC Engl 6350 Quiz Engl 6350 Paperwork for counseling	Google Translate E-mail (5 sent) Text (5 sent) Grocery list
Feb. 6	Note-taking in class (NTC) Engl 6610 NTR Engl 6610 Grading and feedback Notes in writing center Form completion in writing center	Google Translate Texting (21 sent) Search for flights Search for hotels E-mail (3 sent) Journal
Feb. 7	Grading and feedback Writing notes on board NTR Engl 1010	Texting (35 sent) E-mail (5 sent) Search flight and hotel Book flight and hotel
Feb. 8	NTR Engl 6810 Grading and feedback Discussion paper Engl 6350 Discussion paper Engl 6610 Text (68 sent)	E-mail (2 sent)
Feb. 9	NTR Engl 6350 Discussions Engl 6810 Revise conference paper (including library searches for additional sources and some note-taking) E-mail students (4 sent) Paperwork (Chrysalis)	Timecard Note to husband

Part 4

What questions about writing interest you? Rereading your autoethnography may reveal topics that can be explored through research. Begin to catalog a list of research questions you would like to explore.

In the sample above, the student, a graduate teaching assistant, was curious about the amount of time spent in writing for her own classes as opposed to the classes she was teaching. She also pondered her personal writing and whether she devoted sufficient time to writing in her journal. For her, *time* became a key word and a consideration for follow-up research.

Finding Your Own Research Question

How do you find a research question that interests you and is viable in terms of adding to the knowledge base of the scholarly literature? Authentic research generally helps fill a gap in what we know about writing studies. From your writing autobiography, you probably have already discovered areas of interest. Making a list of *topics* that interest you is a good start. Recall that writing studies is a capacious field. Writing touches every person and reaches into all corners of our daily lives. In the writing log tally, entries may include writing that seems almost invisible: putting search terms in a browser; writing a check; signing a greeting card; completing a time card.

Another possibility may focus on a question about writing that you've pondered. For instance, how does a field other than English view writing, or more particularly, how does a particular department set its writing standards—not only in contemporary terms but also historically. What does a field say about the importance of writing in its recruitment literature, and is that carried through in reality? The focus of the question will influence the method of investigation.

Or, consider questions outside academe and school. How does writing manifest itself at work? At play? In interpersonal communication? What is the nature of any applied writing that you do? *Applied* writing generally refers to real-world writing applications. Again, the field is practically limitless, but here are a few: contracts, grants, correspondence, usability studies, websites, personnel reviews, performance reports, advertisements, and programs.

Develop a working draft of your question. What is it you want to explore or know? What questions will help you find the answers? What will you study in order to get answers—people, texts, artifacts, practices? Why is this question important or significant? How will it make a contribution to the field, and, finally, is it doable in the amount of time allotted?

Here are some sample topics:

- Has the blue book (used for writing essay exams) seen its day? What is its history?
- The classic advice for designing a research poster is this: 40 percent white space, 40 percent pictures/illustrations, 20 percent text. These proportions are based on good communication principles for this medium. At a particular event (e.g., NCUR), are the posters designed with these proportions? If they are not, what do follow-up interviews with the researchers reveal about poster design?
- The National Council of Teachers of English (NCTE) has a policy on gender-neutral language. Is such a policy common in other fields? How knowledgeable are college-aged writers about gender-neutral language?
- Atul Gawande and Jerome Groopman are both physicians who also write for the *New Yorker*. How do these two physicians' essays differ and how are they alike? What personas do their essays project?
- Writer's block doesn't just strike young writers; it can also affect mature, professional writers. Consider a case study of one to three mature scholars who are experiencing or who have experienced writer's block. The *New Yorker* article, "Draft No. 4," by John McPhee, which begins with his own description of writer's block—even though he's a Pulitzer Prize-winning writer—might be an inspiration. <http://www.newyorker.com/magazine/2013/04/29/draft-no-4>
- What is the standard for writing in a particular field of study (e.g., a major); how is it defined, and how did it get to be that way?
- What written documents about responsible conduct of research (RCR)—research ethics—exist in any particular field on campus? How are these concepts transmitted from mentor to student novice?
- Writing exams for entry into particular fields (e.g., teacher education) exist on campuses. What are their histories? Why were they instituted? How do students feel about these writing exams? What is their pass rate? Is there room for improvement?
- What are the lore and myths about grammar among college-aged writers in a particular class or field?
- What mnemonic devices do students use to write—strategies about how to succeed in writing that may or may not be valid?
- Why don't students take advantage of the writing center or writing-fellows program?

- The writing-fellows program suggests that its participants/graduates acquire skills that help them with graduate studies and professional schools. What do WF alumni say about their experience as WFs looking back?
- “Writing is a skill that develops slowly over time but atrophies quickly,” according to Erika Lindemann (1989). What is the prevalence of frequent writing in classes? Or is it a case of the Big Paper at the end of the term?
- What are faculty beliefs (in a field other than English) about how students learn to write?
- Does your family have any historical journals/diaries that would be of interest for understanding the times in which they were written?
- What rhetorical devices are common in ecclesiastical documents? How are audience, organization, and style reflected in these documents?
- What documents (and arguments) are written to convince a university campus to make a significant change (e.g., Aggie Blue Bikes, the arts fee, the GLBTQ Center)? How are these documents perceived from a historical perspective, say, ten years later?
- The honors program requires application essays for entrance. How might these essays be mined to understand the profile of the entering class? What are red flags for readers/evaluators that might torpedo a student’s entrance?
- How is the IMRAD structure of scientific reports communicated by mentors to their student researchers?
- Analyze the texts of university admissions documents from (1) research universities, (2) land-grant institutions, or (3) state institutions. What messages are being communicated to prospective students and parents?
- The poster is an unusual—almost unknown—medium for communicating research results in the humanities, yet humanities students must learn how to prepare posters for many venues, such as CUR’s annual Posters on the Hill in Washington, DC. How are students and their mentors coping with this new medium?
- How does academic writing differ from real-world writing, using the lens of your own experiences?
- Why is an app like Hankz Writer, which adds retro manual typewriter sounds to an iPad, attractive to users?

Student Activity



DEVELOP A RESEARCH QUESTION

You are looking for a topic that (1) interests you, (2) is worthwhile, (3) has not yet been addressed in the literature, and (4) is doable in the time constraints of this class. Once this question is developed, the review of literature can begin, which then leads to the methodology development and study.

Refining Research Questions

Once a question is decided upon, it must be refined and defined. Consider the *scope*, *timing*, *setting*, and *size of the participant population* of the research study that will be used to answer the question or solve the problem posed. The *scope* of the study refers to both the amount of *time* involved and the *size* of the participant population, often referred to as *n* or *number* of participants. Note that *participants* is the preferred alternative to the term *subjects*, which is viewed as being more hierarchical. The amount of time from start to finish of the study is often a common-sense question and answer: a workshop or short-course period, a semester, an academic year.

The *method* or *approach* taken is yet another important question. *Methods* are techniques used to gather information while *methodology* is a theory of how research should be done. Methodology also indicates a philosophical basis for the research. A researcher may *approach* a study using various theoretical lenses. I recall an important book from my own undergraduate career, Wilford L. Guerin's (1966) *A Handbook of Critical Approaches to Literature*. My professor used the first edition, which employs approaches such as Freudian and Jungian analyses. In the sixth edition it is easy to see how literary criticism has changed with the addition of ecocriticism, feminist and cultural studies, and postcolonial studies. These schools of thought really did not exist in the 1970s, although in the case of feminism, there were beginning signs of feminist criticism. *Researching Writing* will explore various approaches to writing studies research; Part 2 develops some of these in detail.

The following chart outlines how the question for the study may be defined by site, method, and scope. These problems were defined by teacher-practitioners pursuing graduate studies. They had real questions, encountered from their work in K–12 classrooms, that they wished to pursue. These are *teachers-as-researchers* engaging in research and reflection

in order to improve practice. As such, they join a distinguished group of teachers-as-researchers who have experienced discovery and change—sometimes borne out of frustration. Nancie Atwell (1987), for instance, had an epiphany as a middle-school teacher: “I didn’t know how to share responsibility with my students, and I wasn’t sure I wanted to. I liked the vantage of my big desk” (179). Lucinda Ray (1987) similarly felt frustrated “with the lack of success . . . in talking to students about their writing.” As a result, she studied the distribution of talk in teacher-student writing conferences, finding that teacher talk dominated about 75 percent of the time. Clearly, the inspiration to do research can come from within.

TABLE 1.3. Chart outlining research question, site, method, and scope of sample research projects

Problem	Site	Method	Scope	
			Time	Size
How does a writing specialist influence writing tasks in the cross-curricular classroom?	High school, grades 10–12	Case Study: <ul style="list-style-type: none">• Interviews• Surveys• Counting	1 academic year	63 teachers over-all but then a selected few for in-depth study
What happens to students when introduced to a writing-workshop approach in the classroom?	Elementary school	Case Study: <ul style="list-style-type: none">• Interviews• Observations• Video recording• Audio recording• Logs• Interest surveys	18 weeks	27 sixth-grade writing-workshop students

A Heuristic for Defining Research Questions

The chart that appears above in Table 1.3 offers a fairly simple way of defining a study. The classifications of a study can become increasingly narrowed by definition as the project is refined. A *heuristic* offers questions that help a writer determine the scope of a study. It can serve as an *invention* or *prewriting* stage that spurs the researcher to craft the research question. *Invention* is the classical term used by Aristotle and is more generally termed *prewriting* in contemporary times.

As you develop your research question, consider the questions that follow. How do these help you define your study? These questions do not represent inclusive categories, as other items could be added to any of the fields.

- What are the ages of the participants?
- Are they children? Elderly? Writers who have already passed and whose work is in archives?

- Who are the participants?
- Are they members of a group such as a service club or a profession?
- Where are the participants located?
- Is the location in the home or in a professional setting or even outdoors? Consider, too, the importance and pervasiveness of the digital environment.
- What genres will be considered? Genres number in the dozens, if not more.
- What time period will the study cover?
- Is the time period a day in the life of a writer? Perhaps a longitudinal study will cover a writer's undergraduate career.
- What is the sample size? A case study may include only a few participants while a large study may have as many as three thousand participants—or even texts.
- What research approach will be used and what instruments from a researcher's toolkit will be employed?

Student Activity



CHARTING A RESEARCH STUDY

In the following chart (Table 1.4), columns are defined for some of the typical aspects of a study. These are sample topics as well as scope and setting for the study. The toolkit of methods to be used begins to come into play. And the notion that some studies will need approval from review boards (e.g., those using human participants or animals) is also introduced.

Do any of the topics give you ideas for developing your research question? Perhaps it is difficult to see connections among some of these items. Think, though, of Charlotte Hogg's (2006) interesting work, *From the Garden Club: Rural Women Writing Community*, which might have evolved from thinking about *farms* as a literacy setting. At the bottom of the chart, begin filling in items that apply to your particular study: information about participants; the setting; what genres of writing might be studies; the time required to complete the study; the size of the sample (e.g., of people or artifacts); and possible methods. This is a draft to begin to develop the research question into a study. You may return to this chart as your thinking about the research question develops. Use the items listed to explore possibilities.

TABLE 1.4.

<i>Participants: Age</i>	<i>Participants: Details</i>	<i>Setting</i>	<i>Genres</i>	<i>Scope: Time</i>	<i>Sample Size</i>	<i>Research Method</i>	<i>Toolkit</i>	<i>RCR: Ethics</i>
preschool	ABC blocks	home	letters	1 day	N of 1	history/archival	survey	IRB
kindergarten		school	essays	1 week		case study	interview	data management
grades 1–3		church	blogs	1 term		feminist	data mining	IACUC
grades 4–6	4-H Club	club	manuscripts	month		text/rhetorical analysis	counting	authorship
grades 7–10	sports teams	outdoors	PostSecret	year		ethnography	participant-observation	
grades 11–12	debate team	retreat	social media	longitudinal		mixed method		
college undergrad	First Year Composition	sports setting	books			empirical/quantitative		
college graduate		international	autobiography			qualitative		
20s		business	memoir			Marxist		
30s		library	recipes			queer studies		
40s	service club (Rotary)	prison	minutes			critical discourse analysis		
50s	physicians	program	poems					
60s		Internet	fiction		N of 1000			
70s	Red Hat Society	writing center	reports					
80s		hospital	lab reports					
90s		farm	scientific reports					

continued

TABLE 1.4.—continued

Participants: <i>Participants:</i>		<i>Setting</i>	<i>Genres</i>	<i>Scope: Time</i>	<i>Sample Size</i>	<i>Research Method</i>	<i>Toolkit</i>	<i>RCR: Ethics</i>
<i>Age</i>	<i>Details</i>							
100s			white papers					
deceased			executive memos					
			technical reports					
			powerpoint					
			journals					
			diaries					
			blogs					
			lists					
			advertising					
			comics /graphics					
			flyers/brochures					
			children's books					
			medical docs					
			confessions					
			textbook					
			yearbook					

YOUR STUDY								
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FINDING INFORMATION AND RESOURCES

A crucial step in the research process is determining whether the research question you are investigating has already been answered. If it has, it is no longer a viable question, and it's back to the drawing board to see how the question may be tweaked or a new line of research developed. The goal in authentic research is to add to the knowledge base in the field. Certainly, finding information about the topic can be done through Internet sources, but libraries continue to be repositories that are most helpful to the student researcher.

Truly, librarians are the unsung heroes of any college campus. The resources of a library and its librarians are immeasurable. For the researcher who is just entering the conversation on a particular topic, books provide the best synthesized approach and don't overwhelm, as a wealth of articles tend to do. A rather old-fashioned, but still a reliable, idea is to find one helpful book and then browse the shelves adjacent to it. This may reveal other valuable resources. Likewise, dissertations are excellent resources, as their writers must defend their ideas through an extended review of the literature, building on the work already done by others. Another resource is the *review essay*, which provides an overview of several articles or books on the topic. Finally, although more rare, a meta-analysis essay or book provides an overview of the topic by looking at as many studies as possible on the topic, drawing them together, and then generalizing.

Citation chaining is a pre-Internet search strategy in which the list of references in an essay or chapter is mined for further valuable sources. This mining helps build context in which the researcher finds an idea and then chains it backward. At any and every stage of the research process, librarians can provide assistance. But this same strategy can be used in digital environments.

In addition to books and journals, electronic databases provide a wealth of information. Writing is a topic that has universal appeal, and as a result, it may be addressed in what seem like disparate databases: ERIC, Education Abstracts, MLA Bibliography, Arts and Humanities Search, Dissertation Abstracts, Social Sciences Abstracts—to name but a few. The interdisciplinary nature of writing means that some sources may be found in educational psychology. To demonstrate the interdisciplinary nature of writing, consider the following titles from a National Conference on Undergraduate Research (NCUR) program and where they are categorized in the program.

- “Writing Apprehension and the Impact on Learning in Undergraduate Nursing Students” (nursing)
- “Rhetoric and Reality in Mainline Protestant Decline: Doctrine or Demographics?” (religious studies)

- “Looking into Song: Rhetoric versus Reality in the Crafting of Protest Lyrics” (American studies)
- “Adapting Campaign Rhetoric to New Media: A Linguistic Analysis of Senate Candidate Web Messages” (political science)
- “Contrastive Rhetoric: Cultural Differences between Chinese and American Business Letters” (English as a second language)
- “Putting Student Research into Context: Lessons from Over 25 Years of Integrating Student Initiated Research with Interdisciplinary Writing and Departmental Assessment” (biology)
- “Wen I Rite Gud It Cuz I Dun Did It Lots: The Effects of Repeated Practice on the Improvement of Writing Skills of General Psychology Students” (psychology)
- “Assessing the Validity and Reliability of Curriculum-Based Measurement in Writing for Elementary-Aged English Language Learners” (education)
- “‘Matters of the Soul’: Rhetoric of the Black Intellectual” (communications)

Databases may have different names depending on the vendor; each academic library will have a different package. One library may purchase Education Abstracts while another acquires Education FullText. Entering a database search through the library portal of a campus website generally ensures that the researcher will have access to these databases, as libraries pay a subscription fee. Each discipline has tools, and each library has some—but perhaps not all—of the tools. Accessing works electronically also ensures that bibliographic information and perhaps even the work itself can be downloaded, which makes writing the report much easier. Librarians can also point to useful software that allows bibliographic information to be transformed from one citation style to another.

Sometimes, searches lead to dead ends. Take Data Database (below), which initially looks like a gold mine of information for conducting empirical research in writing. As it turns out, it was a semester-only project for a graduate course.

RESOURCE FOR DATABASES IN WRITING STUDIES RESEARCH

Welcome to Data Database, where you can explore and find tools for conducting empirical research in writing. Search by tool name, related tags, or the stage of your current research in Rhetoric and Composition. This resource was created by a seminar held at Purdue University (2011). <http://datadatabase.wordpress.com/>

A truly terrific resource is CompPile (<http://comppile.org/site/history.htm>), which offers a database on scholarly work published in composition

studies since World War II. It presents “an inventory of publications in post-secondary composition, rhetoric, technical writing, ESL, and discourse studies.” Its search engine is effective at locating relevant sources. It catalogs postsecondary writing scholarship published in journal articles, review essays, notes and comments, books, dissertations, ERIC items, and edited collections. CompPile is a collaborative project, and a group of volunteers add to this resource. Another resource is REX (the Research Exchange Index, <http://researchexchange.colostate.edu>), a searchable database of researcher-authored, peer-reviewed reports on contemporary research.

Other resources include video and audio. It's not only print-based materials that can be drawn on for a research question, particularly when there are excellent online journals that allow multimedia submissions.

Web resources are yet another good venue for finding information. Although *Wikipedia* is enormously helpful as a resource, it may not always be considered a good source. Why? *Wikipedia* features user-created content, which may or may not be credible. *Wikipedia* even affixes notes to entries that are suspect. A primary purpose of citations and references is for the reader to check the original source. That's yet another reason why *Wikipedia* may not be the best source: its content is not static. How do we judge web resources? Consider the accuracy of any documents, their authority, their objectivity, their currency (how recent are they?), and the breadth of coverage.

The increasing interest in digital humanities projects is also a boon to the writing studies researcher. Digital humanities, which encompasses both research and pedagogy, focuses on the intersection of humanities disciplines and computing. There is a long-standing history—certainly from the early 1980s—of a relationship between composition and computing. As director of a university writing program at this time, I headed the transition to a computer-based writing program, which featured a computer lab in our writing center. Students were not happy. They asked, “Is this a computer class or a writing class?” The notion of composing in longhand seems archaic now. A professional journal, *Computers and Composition*, arose as a result of technology integration in writing programs. Digital humanities is much more broad based but is still a worthy venue for finding sources and resources. The National Endowment for the Humanities (NEH) correctly states the impact of technology on the humanities:

In a short period of time, digital technology has changed our world. The ways we read, write, learn, communicate, and play have fundamentally changed due to the advent of networked digital technologies. These changes are being addressed in fascinating ways by scholars from across the humanities, often working in collaboration with scientists, librarians, museum staff, and members of the public. (Source: <http://www.neh.gov/divisions/odh/about>.)

Special Collections and Archives

Libraries have specialized collections featuring items that generally do not circulate as materials in the general collection do. What is housed in these areas? Archives and special collections encompass rare and unique materials in various formats. Materials may range from papyrus to digital records. Illuminated manuscripts and early printed books may be included but also business records, personal and family papers, maps, artifacts, images, motion-picture films, and audio recordings. And these items are not derived from historical artifacts only. More recent areas of collecting include websites, blogs, and other digital content.

Visitor and user policies should be reviewed prior to any visit, although special collections librarians often give tours to groups of students as part of a class. In general, given the rarity of the materials, users are requested to have in hand note-taking materials that cannot harm the artifacts. This includes, generally, pencils, laptops, and even digital cameras. Users are asked to register in special collections. Some items may require white-glove treatment—literally. For instance, a student researcher working on a translation of the flyleaf of an illuminated book not only wore white gloves, but the book rested on a special platform to ensure it was supported.

Profile of a Student Researcher: CJ Guadarrama

Carlos Junior (“CJ”) Guadarrama is an English education major, and as part of one of his courses, he visited the Special Collections and Archives area of the university library. The librarian reviewed various areas of emphasis for its collection: Western history; local poet May Swenson; Jack London papers; forest-service records; and agricultural papers. CJ perked up noticeably when the Intermountain Indian School was mentioned. His mother had worked at Head Start in the building that had housed the tribal boarding school, and he knew the buildings were to be razed in the near future. As he began to look at the papers in the files, he found newspapers from the 1970s that included articles about a “riot” at the school. He latched onto this topic, and by interviewing school alumni, he came to a final project about the appearance and reality of rhetoric about the conflict among students of the various tribes housed at the school. “The lightbulb illuminated for me,” CJ said. “I finished that research project and prepared a poster for the undergraduate research day at the state capitol.” CJ was so “on fire” about the possibilities of research arising out of this special collection that he proceeded to complete three projects, each one disseminated in poster format.

Reviewing the Literature

For students, it may seem contradictory to think about *literature* as scholarly works when it so often means Shakespeare, *To Kill a Mockingbird*, or *Catch-22*. But in the context of research, *literature* means that which has been published on the topic. Reviewing the scholarly literature gives the researcher insight into what has been done already by other scholars. It sets up the opportunity for the researcher to know if the project will truly fill a gap in the literature. Researchers review the scholarly literature on the topic, but they may also review appropriate scholarly references on the setting and even the research design. Skimming sources quickly is a first stage, followed by more careful review once the researcher determines that there is truly something *there*. In short, is the topic of significance, and can the researcher add to what's known? These questions are sometimes abbreviated as the *so what* test.

A *review of literature* demonstrates whether or not research questions have already been addressed sufficiently. It's also possible to take a problem that has been explored in one setting and transplant it to a different setting; in other words, vary the *site* for the research or the *population* studied. For instance, Piaget's theories on child development were developed in a Western culture. Would those still hold true in a tribal setting? For instance, how is information technology used in a third-world country? Does a computer-for-every-child initiative have an impact on literacy rates? It's also possible to replicate a study to see if the findings are consistent. A replication may also vary the context of the setting.

How is this part of the research process recorded? The best way to proceed is to begin building an *annotated bibliography*. This list of references includes the citation—using the style appropriate to the topic. Students in English may be most familiar with the citation format of the Modern Language Association (MLA), which is used for writing scholarly essays on literature. On the other hand, for professional journals that include research on writing, the more common citation form is the current edition of the *Publication Manual of the American Psychological Association* (APA 2001). Some publications in writing may opt for Chicago style. This brings to the forefront the fact that research on writing is often considered a social science as opposed to the humanistic scholarship in literature. Why do citation styles differ? In terms of APA format, note that two differences are immediately apparent: (1) the author's initials are used rather than the full first name, and (2) the date of publication comes early in the citation. In terms of the preference for initials, gender-neutral identification is guaranteed. How current the work is becomes very important in the social sciences, which is why the date is given primacy.

Following is a sample from the Annual Annotated Bibliography published in the journal *Research in the Teaching of English*, which uses APA style:

Wolfe, C. R. 2011. "Argumentation across the curriculum." *Written Communication* 28 (2): 193–219.

Analyzes 265 undergraduate writing assignments from 71 university courses as explicitly thesis-driven assignments, text analysis, empirical arguments, decision-based arguments, proposals, short answer arguments, and compound arguments. Most assignments (59%) involved argumentation with the highest percentages occurring in engineering, fine arts, interdisciplinary studies, social science, education, and natural science, with less focus in the humanities (47%) and business (46%). While argumentative writing in general is valued at the university level, the types of arguments required also varied across different disciplines.

Yang, Y. F. 2010. "Students' reflection on online self-correction and peer review to improve writing." *Computers & Education* 55 (3): 1202–10.

Investigates an online system to arouse students' reflection on both self-correction (one's own problem-solving process in writing) and peer review (peers' problem-solving process in writing) to improve their texts. Students were encouraged to reflect on their actions during and after text construction. A sample of 95 undergraduate students wrote a reflective journal, which was analyzed by content analysis to compare their reflection on self-correction with peer review in writing. Finds that reflecting on the differences between self-correction and peer review enabled students to monitor, evaluate, and adjust their writing processes in the pursuit of text improvement. Furthermore, students claimed that self-correction helped them detect grammatical errors (local revision) while peer review allowed them to view their own texts from others' perspectives. (*RTE*, Volume 46, November 2011; <http://www.ncte.org/journals/rte/biblios>)

A good annotation includes the bibliographic information as well as a summary. In addition, it's important to note the date of the study, where it was conducted, the size of the sample, demographic information, and choice of methodology. Finally, reflection on how this publication has relevance to the study helps frame the context. This detailed work is invaluable when the actual report on the project is being written and saves much stress for the researcher. (For work found on a website, the date the website was accessed should also be recorded.)

WRITING THE PROPOSAL

Before the research is undertaken, a proposal for the research is written. This is especially true when the researcher seeks IRB approval or grant funding. Many institutions have grant programs that support students' research projects. No matter other considerations, it is always wise to write a proposal, as it lays out what is to be done, and it's the first check on the credibility of the project. It's a place where the need for revisions in the topic may come to light. Once the proposal is done, it's a plan for the work, but that plan may be revised as the project develops.

The following is a general outline for writing a proposal:

- project title
- project abstract (briefly describes the project)
- project description (describes the basic idea or question you will explore and illustrates your planned approach)
- review of literature (describes the significance of your proposed work and the contribution it will make to the field by offering a review of the literature on the chosen topic and an explanation of how your project fills a gap in scholarly knowledge)
- budget (describes funds needed to complete the project, perhaps in an Excel form like the one below)

TABLE 1.5. Project budget form

	<i>Brief Explanation</i>	<i>Request</i>	<i>In-Kind Match</i>
Travel			\$0
Supplies and Materials			\$0
Other (Please Specify)			\$0
Other (Please Specify)			\$0
Total Expenses			\$0

- Here's an example of a budget submitted to conduct archival research.

Research Budget: Archival Research to Study Papers of 19th-Century Woman Physician

Photocopies:	\$120
Printer Cartridge:	\$75
Blank CDs for Microfilm Copying:	\$5
Pens and Paper:	\$8
Research Software, Endnotes:	\$110
Travel:	
• Airfare to Salt Lake City:	\$325
• Car rental, 4 days:	\$125
Total Cost:	\$768

COLLECTING AND ANALYZING DATA

In part 2 of this textbook, specific strategies for collecting data will be addressed in tandem with the research approach addressed. This section provides a broad overview of the toolkit available to researchers for gathering information. Please note that *data* is the plural form while *datum* is singular. This sometimes trips up researchers in terms of subject-verb agreement. Thus, to be grammatically correct, *data are* reported.

Strategies for collecting information or data are many and should be selected in accordance with the research question, site, and methodology. Inherent in any data collection is the responsible conduct of research (RCR) that is discussed more fully in chapter 3. Permissions may need to be obtained in order to conduct the study, and if people are involved, the researcher must be certified in studying human subjects. While information obtained through digital sources may seem fair territory, people are behind content, and their work must be treated fairly and ethically. But first, a look at the ways in which information may be obtained.

Content Analysis

Most likely, you are already familiar with *content analysis*, having interpreted texts in previous assignments: understanding a historical document, analyzing a novel, arguing a political point. In fact, the writing autobiography of an earlier assignment in this text called for analysis. The systematic examination of data gathered is *content analysis*. This analysis may be quantitative—literally *counting*—or qualitative.

Content analysis is sometimes called *textual analysis*. Students who have worked with literary criticism will find similarities in understanding factual occurrences and interpreting fictional characters and events. While the people in fiction are *characters*, the key elements of *motivation*, *plot*, and *conflict* can apply in research as well. For instance, why does a tutor use a particular approach in working with a basic writing student? What is the motivation behind the writer who revises a piece multiple times? How do collaborative authors work together successfully and resolve conflict?

A word here about an approach to criticism and analysis that appeared in the last part of the twentieth century is appropriate. *Critical discourse analysis* is yet another form of analysis. *Discourse*, most commonly applied to spoken word, can also refer to written text. Critical discourse analysis studies the relationship between discourse and ideology. By *ideology*, we mean a set of beliefs and attitudes that form a certain perspective on the world. Critical discourse analysis is particularly keen on how language and power are interrelated. Most critical discourse analysts approach a text with a political goal or agenda of some kind and are often advocates for social justice and social change, seeking to show how a text could be biased toward a particular ideology. While critical discourse analysis relies on the content-analysis tool, in itself it is not a method but a lens through which to look at the research topic. Scholars who engage in critical discourse analysis are looking to raise the downtrodden, support equal rights, and uncover unfairness.

In content analysis, what text is being analyzed? It may be an existing text, or it may be one that is created, as in *transcriptions*, when scripts

are written based on interviews or other means of capturing conversations or monologues. Transcriptions may reveal kinds of statements and quantitative information. Through such analysis, patterns or themes may be established.

Transcriptions of interviews can be an arduous process, so it is important for the researcher to take into account the time and effort needed when choosing this research tool. Something like an interview but more like a monologue, *protocol analysis* allows the researcher to get inside the thoughts of writers in order to look at process, not just product. This method arises from cognitive studies. Three kinds of protocol analysis were popular in research on writing, largely in the 1980s: the *think-aloud protocol*, *talk-aloud protocol*, and *read-aloud protocol*. Think-aloud protocols operate like this: a writer begins a task and thinks aloud while writing, the voice captured on a recording device. The data produced from this approach include the writing as well as the transcription of the think-aloud protocol. Flower and Hayes (1981; Flower et al. 1986) used this approach to good effect to uncover the cognitive processes of writers and to strategize on how novice and expert writers differ in their approaches. The think-aloud protocol is sometimes applied in usability studies so observers can understand a user's experience when working with a piece of equipment, an object, or, say, an app.

The talk-aloud protocol asks participants to describe their behaviors but not comment on or interpret them. In the read-aloud protocol, students read aloud a text; they may also interrogate the text as they read. This process is not to be confused with simply reading aloud in class.

David Bartholomae (1980) found that having students do read-aloud protocols of their own work offered insight into their thinking and writing processes. When basic writers read their own texts aloud, they actually corrected many of the errors; however, when they were asked to locate those errors in the writing itself, they could not! This kind of protocol has lost some popularity as a method because it is viewed as less objective than once believed.

Transcriptions carry with them possible drawbacks. Equipment does fail. If that is the case, the researcher should transcribe as much of the conversation as possible and note the omissions in the record. The transcription may be a word-for-word record (including pauses, notes about laughter, etc.), or it may be a summary of the conversation, which can be done more quickly. The approach depends on the question and methodology of the overarching project.

Coding labels may be determined in advance of the coding, or the codes may be teased out as the researcher reviews the data. Some examples follow below. For one example codes were determined, at least in part, in advance of the transcription analysis, and for the other, the terms emerged through careful review of the transcripts. In terms of

coding systems, it is highly recommended to use codes recognizable in the field, which will be helpful when the study is presented or published. Using familiar coding systems helps make the research *replicable* and *aggregable*.

Rebecca R. Block's (2010) dissertation focuses on tutoring sessions and the belief that addressing higher-order concerns is more important than addressing lower-order concerns. There are commonly accepted notions of which concerns in writing are higher and which are lower. Higher concerns generally include thesis, organization, development, purpose, and audience while lower concerns include sentence structure, word choice, punctuation, and spelling. The abstract for her dissertation explains the approach Block employed to get at a question on efficacious approaches for read-aloud tutorial sessions.

Reading aloud in writing center sessions is a common practice, one that is both under-studied and under-theorized. In an attempt to begin to address this gap, this dissertation conducts an empirical analysis of three different methods of reading aloud in the writing center: client-read, tutor-read, and point-predict. Client-read and tutor-read are traditional approaches to reading in writing centers; point-predict was adapted into a tutoring method from a peer-review method by Barbara Sitko. In order to examine these methods, a study of 24 writing center sessions—eight of each method—was conducted. Sessions were recorded, transcribed, and coded for initiator and writing issues discussed.

This dissertation is divided into four chapters. Chapter One provides a literature review, Chapter Two addresses the transcript and survey analysis, Chapter Three uses tutor interviews to question common assumptions within writing center lore, and Chapter Four offers ideas for future research and implications for practice. The most striking finding of this study is the strong suggestion that reading methods have a significant impact on the outcome of tutoring sessions—especially on the amount of attention given to global and local issues—and that current beliefs that having clients read aloud is the best way to ensure a global focus, client control, and client engagement may be incorrect. Specifically, this study found that traditional tutor-read sessions focused three-fourths of their conversation on local issues, whereas point-predict sessions focused only a fourth of their discussion on these issues and gave far more attention to organization, signposting, and content. Clients were also about twice as likely to initiate globally focused discussions in point-predict sessions as in other session types. Consequently, this dissertation concludes that writing center practitioners need to more closely analyze the current reading methods they employ and seek out new reading methods

that might be better suited at catalyzing global, engaged, client-focused sessions.

David Bartholomae's (1980) Braddock Award¹-winning essay, "The Study of Error," describes how he used error analysis to understand basic writers' intentions with the goal of uncovering internal strategies that could be mined to improve their writing.

The mode of analysis that seems most promising for the research we need on the writer's sequence of learning is error analysis. Error analysis provides the basic writing teacher with both a technique for analyzing errors in the production of discourse, a technique developed by linguists to study second language learning, and a theory of error, or, perhaps more properly, a perspective on error, where errors are seen as (1) necessary stages of individual development and (2) data that provide insight into the idiosyncratic strategies of a particular language user at a particular point in his acquisition of a target language. (256)

Error analysis begins with a theory of writing, a theory of language production and language development that allows us to see errors as evidence of choice or strategy among a range of possible choices or strategies. They provide evidence of an individual style of using the language and making it work; they are not a simple record of what a writer failed to do because of incompetence or indifference. Errors, then, are stylistic features, information about this writer and this language; they are not necessarily "noise" in the system, accidents of composing, or malfunctions in the language process. Consequently, we cannot identify errors without identifying them in context, and the context is not the text, but the activity of composing that presented the erroneous form as a possible solution to the problem of making a meaningful statement. (257)

Bartholomae found that having students read aloud their work can be helpful to improving their writing, but he also found that there was not just one response but several, which he then classified by type. In essence, he set up a coding system for his findings. In other words, the themes emerged from the review of the data.

In general, when writers read, and read in order to spot and correct errors, their responses will fall among the following categories:

1. overt corrections
2. spoken corrections
3. no recognition
4. overcorrection

5. acknowledged error
6. reader miscue
7. nonsense in which the writer reads the sentence as though it were correct. (266)

It should be clear that analyzing data can be time intensive. Software specially designed for qualitative research data analysis, such as Nud*ist or Atlas TI, is powerful, but it is expensive and not necessarily easy to learn quickly. Computer assisted/aided qualitative data analysis software (CAQDAS) provides tools for transcription analysis, content analysis, discourse analysis, coding, and textual interpretation. The Saturate application (<http://www.saturateapp.com/>) is simple and free. Technological innovations for qualitative research will be continually evolving. As a result, listings here will be quickly dated.

With the rise of digital humanities projects, the number of text-analysis tools has also grown. One of these is TAPoR 2.0, the revised edition of TAPoR (Text Analysis Portal for Research), which was developed by faculty at the University of Alberta in Canada. As the creators note, “It is a both a resource for discovery and a community. The TAPoR team has created a place for Humanities scholars, students and others interested in applying digital tools to their textual research to find the tools they need, contribute their experience and share new tools they have developed or used with others.” (Source: <http://www.tapor.ca/>.) When I was an undergraduate, I focused one of my essays on the use of the word *honor* in Henry Fielding’s 1725 book *The True and Genuine Account of the Life and Actions of the Late Jonathan Wild*. My research method was to count each and every occurrence of the term by turning page by page. The trials of an undergraduate in the precomputer age!

Observations and Notes

Recording information stems from the *field-notes* concept used by anthropologists. By this time it may be obvious that research in writing derives many of its methods from anthropology. Bronislaw Malinowski, considered the founder of anthropology, established the practice in which the researcher lives for an extended time among the people being researched and conducts research in the native language. This ethnographic approach to fieldwork influenced his many students, including, famously, Margaret Mead, who studied maturation rites in the South Pacific. For an example of research on literacy away from the United States, Kulick and Stroud (1993) looked at the acquisition of literacy in a village in Papua New Guinea. They found that “children learn very little during their first two or three years . . . due . . . to their inability to cope with instruction in English. . . . Outside of school . . . literacy skills are

almost never used. . . . After they leave school at ages fourteen to fifteen, many of these young people may never read and will almost certainly never write again” (32).


The practice of *participant observation*, in which the researcher is placed within the culture of the study to gather information, is the basis of ethnographic practice. Clifford Geertz (1973), another anthropologist influential for writing studies, suggested that “thick description,” detailed notes from observation, is the best approach for understanding the situation and context. For the purposes of studying writing, the culture is often the classroom.

Note taking is an essential skill for the researcher as it involves careful observation, analysis, and critical thinking in order that meaning can be derived. Hardly anyone can be like Truman Capote, who practiced memorizing conversations so he could recall later in the day the details and record them; this approach stood him in good stead during his research for the groundbreaking “nonfiction novel” *In Cold Blood* (Capote 1965).

The researcher may be in the role of observer as an outsider, or the researcher may be in the role of observer as an insider—someone invested in the culture. The setting may be so familiar to the insider that it’s more difficult to see aspects of the culture. A researcher is responsible for making the familiar unfamiliar so it is more readily assessed; conversely, the researcher may also make the unfamiliar familiar, offering explanations for the phenomenon. Alice Goffman was a sophomore at the University of Pennsylvania when she began tutoring an African American high-school student from a low-income neighborhood. Through this student she met crack dealers, whom she followed after asking their permission, tracking their lives. For the next six years, Goffman lived in the neighborhood and observed and took the notes that became *On the Run: Fugitive Life in an American City* (Goffman 2014). That is a dramatic example of true immersion in a culture.

Returning to writing studies research, how is it best to take notes during an observation? Admittedly, capturing the details of a setting can be overwhelming, as there are the physical description of the place, the interactions that go on among the people who inhabit the space, and even what is *not* happening. Does the researcher enter notes electronically or in longhand? The setting may determine whether an electronic method is intrusive or not. Certainly it is much easier to begin with notes typed so they are more accessible; however, transcribing notes from longhand may also reveal much to the researcher. Keeping notes carefully is one of the standard principles of responsible conduct of research although the principle typically assumes lab notebooks. Note keeping is discussed in more depth in the section on the ethics of data acquisition and management, but in brief, the researcher is responsible for taking

Table 1.6. “T” Journal or dialogic notebook sample.

Observations	Comments
8 March 2012, 10:25 a.m.	1:30 p.m.
The students enter classroom 201B noisily. Counting, 29 students (16 female; 13 male).	
The desks are arranged in front of the teacher's desk.	
One student approaches the teacher to discuss a paper.	I asked H about this after class, and she said this was a late assignment.
10:30: Ms H calls the class to order and asks them to do a task “correct the sentence.”	H said in interview following class that she likes “bell-ringer” assignments to get the class into learning mode right away.
Students share their answers to sentence exercise.	Students seem to get this right. I’m wondering about a grammar lesson out of context? Effectiveness? What does this signal about importance of grammar when it’s first thing on agenda?
10:35: H asks student to read Poem of the Day. . .	H told me she uses Poetry 180 website to find poem of day. This seems a different priority from the sentence error task. . . .

accurate notes and not selecting only data that conform to the hypothesis or question. The participant-observer takes in all details and then draws meaning from them.

The format may vary from a simple notebook in which observations are dated and recorded to a “T” journal or dialogic notebook in which two columns are used, the first for observation and the second for reflection and comment. Even if the researcher is not an artist, it’s helpful to have a sketch of the physical setting or photographs.

Student Activity



OBSERVATIONS: SPEND SOME TIME PRACTICING TAKING FIELD NOTES

I have adapted these guidelines for making observations from *Field-Working: Reading and Writing Research* by Bonnie Sunstein and Elizabeth Chiseri-Strater.

Option 1: In a direct observation (about thirty to fifty minutes on average), take notes as much as possible on what you observe, hear, perhaps even smell. The left-hand column includes notes from the observation (e.g., physical characteristics of the setting, conversations between and among those in the setting, nonverbal behavior); the right-hand column includes the researcher's reactions, feelings, thoughts, and speculations. Also note what is not happening if appropriate as the absence of activity may be illuminating.

Option 2: Participate in an activity of about an hour's length—as an actual participant, which means notes cannot be taken at the time. It requires good memory and using mnemonic devices so that when notes are written, they are as accurate as possible. Record in as much detail as possible in the field notes as soon as you can. This is participant observation in its true sense.

In general, any good record of participant-observation includes the following items:

- date, time, and place of observation
 - specific facts, numbers, details
 - sensory impressions
 - personal responses to the act of recording (Are others watching you as you watch them?)
 - specific words, phrases, summaries of conversations, and insider language
 - questions about people or behaviors at the site for future investigation
 - continuous page-numbering system for future reference
- (Sunstein and Chiseri-Strater 2011)

Interviews

Observations may lead naturally to interviews. Talking to informants can provide important information if the groundwork is prepared carefully. For novice interviewers, in fact, it is best to use the interview as

a methodological tool only after considerable effort has been put into the development of questions and also after practice conducting an interview. This is not to say that the casual interview is not valuable; spur-of-the-moment conversations may reveal information that serves as instigation for a project. The researcher may be struck by a student's or teacher's comment in such a way that it serves as the basis for further investigation. For more formal information gathering, the researcher must always be aware that the participants' time is valuable, which means being as organized as possible. An interview is not a fishing expedition but a series of questions designed to gather information that will help illuminate the topic. Because interviews are time and energy intensive, it's important to use this tool wisely.

How to begin? Consider this set of steps. Drafting a set of questions for review by a mentor is a good initial move. In general, it's wise to begin with a few warm-up questions to put the interviewee at ease. These may be easy-to-answer factual or demographic questions. Subject questions should be open ended and neutral, as the researcher's agenda should not influence the interviewee. Questions that elicit only a yes or no answer should be avoided unless a clarifying follow-up question is added. Any terms that may be unfamiliar to the interviewee should be defined. The interviewee should feel comfortable, not threatened, in answering the questions. Trying out a series of questions in a dry run with a friend or mentor is a good idea. The questions can be revised, then, based on the feedback. The interviewer should feel comfortable in asking follow-up questions not originally on the list if a comment seems worth further investigation.

Comfort is a key part of any interview. In addition to the interviewee's feeling at ease about the content of questions, it is also helpful for the interview to take place in a comfortable setting with no distractions. The time of day and even the day itself should be set carefully so as to avoid any Monday-morning blues or TGIF haste. Interviews may take place in person or through Skype or other technology. The researcher should explain (most likely reinforce) what the interview is about, as it is assumed that the project was explained earlier in order for the participant to agree to be interviewed. It's crucial that issues of confidentiality are once again noted and that necessary permissions have been obtained. For some interviews results are shared with participants, including the researcher's analysis and interpretation.

The nuts and bolts of an interview can make the process flow smoothly or provide disastrous distractions. Assuming that the interview is being recorded, it's important to check the equipment, not just at the beginning but also during the session. If a second person is available, it's advantageous for the researcher to have another recorder and listener in the room—assuming the participants agree. Frankly, it can be difficult for

one person to both ask and record comments. And, memory is fallible. Explaining the mechanics of the interview—length, format, recording devices, what will happen next—helps the participant understand the process and feel relaxed. The body language of the interviewer should also express neutrality. Likewise, the interviewer should not engage in a debate with the participant but have an open attitude to all answers. That said, some interviewees may try to take control of the session, and it's important that the interviewer keeps the session on track and on time. A good interviewer might offer an affirming comment such as “that’s a fascinating story” but then steer the conversation back to the set of questions with “let’s continue with the next point.” A mock interview set up to practice might introduce these potential hurdles so the interviewer can be alert and prepared.

At the beginning and end of any interview, the interviewee should be asked, “Do you have any questions?” Another good question to ask is, “Is there anything you wish to share with me that you did not?” This question can uncover hidden information that may be useful, and the interviewees also depart the session believing their opinions mattered. Once the participant has departed the session, the interviewer should take additional notes on observations and reflections. Be alert to surprises from the interview. Consider whether further follow up will be needed. Assuming the session was recorded, transcribe it as soon as possible.

Profile of a Student Researcher: Kristin Lillywhite

To illustrate a sample interview (and some other aspects of conducting research as well), a research project undertaken by Kristin Lillywhite will be used. Kristin, a secondary-education major with subject specialization in English, was interested in these questions for her honors thesis: How does linguistic research inform teaching practices to address the learning needs of ELL (English language learners) in today’s classrooms? How can teachers help students achieve higher-level proficiency, called cognitive academic language proficiency (CALP)? Interviews were the primary tool to collect information in this study. Kristin described her purpose and methods as follows:

In order to determine how teachers conceptualize second language acquisition and literacy instruction, eight secondary language arts teachers were interviewed. The interview component of this project was a qualitative case study relying heavily on thick descriptions. Participants were selected from five different sites: two middle schools and three high schools from mostly rural and suburban communities. The average class size for most teachers ranged from 20–35 students. Teaching experience of the individuals varied from 5 to 33 years. . . . The teachers interviewed in this study worked mostly

with Hispanic students in transitional bilingual programs. (Lillywhite 2011, 8–9)

Kristin's research study was approved by the university's Institutional Review Board (IRB), as human-subject research was integral to her study. Five guiding research questions structured the study and thus influenced the interview questions.

1. How do the learning needs of ELL students differ in terms of number or degree from the needs of mainstream students?
2. How do teachers think CALP is relevant to their teaching practices?
3. How do teachers negotiate possible differences between home literacies and CALP?
4. What significant trends or changes in literacy instruction and students' learning needs have occurred?
5. What should novice teachers know regarding students' learning needs, literacy or language instruction? (10)

The list of questions Kristin developed for her research project was revised based on consultation with her mentors following a practice session. It should be noted that she began communication with her teacher-participants through a preinterview survey. These questions are included in the survey section; they set the stage for the following interview questions.

Student Activity



INTERVIEWS

Your classmates have developed writing autobiographies in an earlier assignment in this text. Working with a partner, share these texts. Prepare a set of three to five questions you would like to address to the author based on the autobiography. Questions may focus on attitudes, processes, goals, or other issues. Ensure that the questions are worded in such a way as to elicit meaningful responses. When beginning the interview, introduce yourself to your interviewee. Note the purpose of the interview and how the responses will be used. At the conclusion of the interview, note themes or patterns you discovered as a result of the conversation. When one interview has been concluded, switch roles. At the conclusion of the conversation, both partners should reflect on

the interview process. Which questions worked particularly well? Which questions didn't work or needed refinement?

Elicited Oral Histories

Also called *life histories* or *personal accounts*, oral history is a special kind of interview focusing on an individual. Noted ethnographer Harry Wolcott's (2003) justly famous study *The Man in the Principal's Office* focused on the life of a school administrator. Sally Crisp (1995) focused her dissertation on four women in rhetoric and composition for her dissertation *Women Scholar-Leaders*.

The Journal of Narrative and Life History was created in 1990 to capitalize on this emerging tradition of looking at narrative to better understand life experiences. Morphing into *Narrative Inquiry* in 1998, the journal provides a "forum for the theoretical, empirical, and methodological work on narrative" (website: <http://www.clarku.edu/~mbamberg/narrativeINQ/> Access: February 16, 2012). This scholarly work builds on the belief that understanding the human experience may be best done through life-history narratives. Jerome Bruner (1986a, 1986b, 1990) feels that narrative is an effective way to communicate research. (For a discussion of narrative as a research method, see Journet 2012.)

Oral histories may illuminate the lives of first-year students in writing or, conversely, the lives of the graduate students who so often teach first-year writing. What happens during their first year of being a student or teacher? Certainly, the first year, generally considered an important rite of initiation, is a common theme. Glen Walter (1981) described that pivotal first year of teaching in *So Where's My Apple? Diary of a First-Year Teacher*. Nancie Atwell (1987), who has already been mentioned, found inspiration for conducting research during her first days of sitting behind the "big desk." Robert Bullough (1989) wrote *First-Year Teacher*, drawing on the personal account of "Kerrie," a novice teacher.

Laurie Grobman (2009, 2013) has been particularly active in establishing projects within her community of Berks County, Pennsylvania, where students in her classes work on African American history, Latino/Latina history, and Jewish history. The students examine artifacts of the community and also interview its members with the goal of developing products (e.g., videos, books, museum exhibits) that will be useful and valued. Oral histories form the core of this *community-based research*—the intersection of service learning and undergraduate research—collecting information in the service of the participants.

While these examples focus on personal accounts in the here and now, it is also feasible to study historical personal accounts. Such life histories can illuminate a particular historical period, address women's roles, be used to establish a timeline of events and historical change,

or provide a contrast to contemporary practice. Working with archival life histories will be explored in more detail in the chapter on historical research methodology.

Biography

In contrast to autobiographical personal accounts, biography is generally developed from the researcher's reviewing all available primary and secondary materials and then constructing the life of a person (or persons) from those sources. It is an interesting mix of fact (based on evidence) and fiction (supposition and conclusions drawn from interpretation of evidence). In terms of research on figures in writing studies, biography looks at the *intellectual* history of an individual.

Most likely, a biography will be written about a historical person. Aspasia from classical Greece is one of the subjects of *Reclaiming Rhetorica* (Glenn 1994; Lunsford 1995), a collection of essays that seeks to recover the voices of women in rhetoric over the ages. James Moffett (1929–1996), another leading rhetorician, coined the term “universe of discourse,” which has influenced teachers and students K–16 (Moffett 1987). John Warnock (2000) portrays Moffett's significant reach in an essay in *Twentieth-Century Rhetoric and Rhetoricians*. The impact of Louise Rosenblatt (1904–2005), a worthy subject for biography given her influential introduction of reader-response theory in *Literature as Exploration* (Rosenblatt [1938] 1995), is addressed by Roen and Karolides (2005) in *The ALAN Review*. Still, there are many, many more scholars in writing worthy of biographical treatment.

While the intellectual history and biography may seem an enormous undertaking, it is possible for a team of researchers to divide the work into sectional assignments so the task is not so daunting. This kind of research is most closely related to historical scholarship but also brings to bear analysis of intellectual contributions to the field.

Surveys

Surveys can be an informal or formal way to gather information about behaviors. But even with an informal survey, researchers tend to structure surveys carefully so the data obtained have validity. An informal survey might be used in the planning phase of the research to get a better sense of the issue. The researcher may try out questions and, in doing so, revise procedures or even the focus of the study.

The ease of access to electronic survey instruments has made these attractive vehicles for conducting research. SurveyMonkey and Qualtrics are just two of the most popular. (The latter may be licensed on your campus.) These companies provide templates for various types of

surveys: academic research, market research, demographic data collection, job satisfaction, usability polls, and so on. Online responses can even be measured by the amount of time a participant takes to decide on an answer. But such sophisticated feedback is only appropriate if response time is part of the study. In any tool used to collect data, the emphasis lies with the goal of the research study.

Kristin's Preinterview Survey

1. What is your name?
2. How long have you been teaching language arts?
3. Briefly (3–4 sentences) describe your teaching assignments.
4. Briefly list the top three learning needs of English Language Learner (ELL) students in your classroom that you are most concerned about.
5. Briefly list the top three teaching strategies you use to address those needs.
6. Circle below to indicate how often you think about the language needs of students when planning lessons.

Let's return to Kristin, our honors student, who engaged in research to ascertain how practicing teachers felt about instruction for ESL students. The questions Kristin developed for her interviews were discussed, but she also used a written survey or questionnaire to elicit information prior to the interviews. Her survey used old-fashioned pen and paper. Those questions appear below. The goal was to be a more informed researcher and to ask the teachers to begin to think about the questions at hand so they were entering the interview knowledgeable about the topic. This design meant the teachers considered the topic in more depth and were not answering spontaneously.

Experts on survey construction generally exist on campuses and can provide helpful feedback on the development and administration of the survey. Survey participants will not look kindly on a slipshod survey and may not finish answering the questions. Designing effective questions is key to a reliable survey. Drafts of questions should be tested with potential respondents to ensure they are easily understood.

Questions may elicit simple yes or no answers. These are easily tabulated. Other types of questions, which are known as open-ended questions, include the possibility for additional comment. Or, questions may request a response on a Likert-type scale, normally offering five possible answers: 1. Strongly disagree, 2. Disagree, 3. Neither agree nor disagree, 4. Agree, 5. Strongly agree. Notice that the middle area indicates a neutral response.

A survey done by a national task force on undergraduate research in writing studies used several types of questions to get at the state of student research in the field. In the following questions, responders provided

factual information, but the door is also open for variant answers the researchers did not anticipate.

Where are you located within your institution?

Department of English

Department of Writing & Rhetoric (or similar name)

Stand-alone Writing Program

Other (please describe)

Does your department have a degree program in writing?

It has a writing major or track or concentration

It has a writing major/track/concentration *and* minor

It has a writing minor

It has a certificate in writing studies

Other (please describe):

Does your department provide opportunities for undergraduate research to engage in original research and scholarship? (E.g., do students engage in authentic research through classroom assignments—as opposed to “term papers.”)

Yes

No

Not sure

Please describe:

The following questions are structured with a list of answers. In the first example it is a check-all-that-apply multiple-choice structure, while in the second participants are asked to rank the items.

What type(s) of research methodologies do the students that you mentor employ? (Check all that apply, please.)

Historical/archival research

Community-based research

Practitioner inquiry

Discourse/textual analysis

Case Study

Ethnography

Experimental

Other (please describe)

What are the most effective ways to increase support for undergraduate research (rank them in order of importance with 1 being most important):

Develop undergraduate curricula

Develop graduate curricula

Develop undergraduate research textbooks and other pedagogical materials

- Develop policy statements and best practices
- Create new conferences for undergraduate research
- Create new presentation opportunities at existing conferences
- Create new publications
- Create new publication opportunities within existing publications
- Create a clearinghouse for information about undergraduate research in/relevant to writing studies
- Additional strategies

Demographic information helps the researcher understand who the participants are. These questions may vary widely; they typically include sex and age of the participant but may also include educational level, salary, and other information pertinent to the study. For the survey on undergraduate research given to the membership of the Conference on Composition and Communication (CCCC), the committee was interested in these demographics:

DEMOGRAPHICS

I currently belong to the following type of institution:

- Two-year
- Bachelor
- Masters
- Doctoral
- None of the above
- Other (insert description)

My role/rank at my institution is

- Adjunct/part-time
- Instructor
- Assistant Professor
- Associate Professor
- Professor
- Other (insert description)

I have been a member of CCCC for

- 1–5 years
- 6–10 years
- 10–19 years
- 20–29 years
- 30+ years

The answers to these demographic questions helped the researchers understand where undergraduate research is occurring and in what institutional types. Demographic questions tend to come at the end of any survey as they are inherently not as interesting as content-focused questions, which are designed to hook participants and keep them answering questions.

A letter of information must preface surveys. This letter to potential participants lays out the goals of the research, benefits to the field, procedures, and any risks. It also informs participants about how the results will be used and how their confidentiality will be protected. Because surveys involve human participants, conducting a survey may require approval by the Institutional Review Board (IRB). A sample letter of information follows.

Student Activity



TAKE A SURVEY: WRITING APPREHENSION

John Daly and Michael Miller developed a survey on writing apprehension featuring multiple questions to uncover the participant's level of comfort with writing. Is the writer fearful? Nervous? Uncomfortable? Daly and Miller used this survey to understand better why students may be fearful of writing—and as a goal, to help students overcome that fear. The test has been used widely since its creation in 1975; an updated version allows students to self-assess their apprehension with the idea that awareness is a first step in improving. The rubric on scores then offers advice to the writer. (See <http://www.csus.edu/indiv/s/stonerm/The%20Daly-Miller%20Test.htm>.)

Take the survey. Then analyze the results with the scoring rubric provided. How well has this 1975 survey stood the test of time? Are there questions you found particularly effective? Are there questions you would revise? Are there differences in the way students write now and the way they did in 1975?

Source: From John Daly and Michael Miller's "The Empirical Development of an Instrument to Measure Writing Apprehension." *Research in the Teaching of English* 12 (1975): 242–49. Adapted by Michael W. Smith in *Reducing Writing Apprehension* (Urbana: NCTE, 1984).

WHAT TO DO WITH SURVEY DATA

When the surveys are submitted, it is time to begin analysis. One simple data point to assess is the *response rate*. This is the number of surveys

submitted in relationship to the number sent. If one hundred surveys were sent, and thirty were returned, then the response rate is 30 percent. Is that a good rate? For an online survey, that is about average. Response rate may be increased through incentive or pay. The National Novel Writing Month (NaNoWriMo) program conducted a survey; its incentive was to offer gifts from the program, such as logo items—“There’s a novel inside this pencil.” For the survey on undergraduate research in writing studies noted above, no response rate was given as CCCC has thousands of members, and it was understood that not all would be interested, but it was convenient to send to the membership. The report indicated that 365 members had responded. Instead of indicating a response rate, the authors of the report described the demographics, noting, for instance, that over 50 percent work at research universities.

Collecting data is only a first step. Analyzing the information means looking for themes or patterns in the answers. Being able to quantify the results is helpful. Take, for instance, this statement:

83% of respondents noted that opportunities exist on their campuses for undergraduates to conduct research. These are largely curricular experiences with almost 80% checking “advanced or upper-level courses in which students have opportunities to learn about and conduct research.” (CCCC Committee on Undergraduate Research 2014)

An analysis of results is part of the research study. This analysis may include discussion and implications or findings. In the undergraduate-research survey, the researchers teased out implications, particularly with perceived hurdles.

CHALLENGES

- The continued gold standard of sole authorship reduces the chance that faculty will seek undergraduates as coauthors or even as research assistants.
- The major barrier for faculty to work with students is time and the willingness to take on students to mentor. A second barrier is lack of experience in working with undergraduates.
- In terms of faculty roles and rewards, faculty and their department leaders should advocate for tenure and promotion decisions as well as merit decisions to include mentorship of students, whether those are undergraduate or graduate students.

In sum, when using survey as a research tool, do a dry run to test the questions, draw on expertise for the design, use an appropriate format (e.g., online, print), consider incentives for the participants, seek IRB approval as needed, and don’t go overboard on the time needed to complete the survey.

AVOIDING PITFALLS AND ESTABLISHING A TIMELINE

Setting a reasonable schedule may be the single most important attribute of bringing a good research project to a successful conclusion. Just as in carpentry, the adage “measure twice, cut once” applies. For projects that require detailed consideration and coordination, the advice might be “plan the work and work the plan.” When a complex project must be undertaken, it’s much easier if it’s broken into doable segments. This is especially true for any project that must be completed within the framework of a quarter or semester. A capstone project such as a thesis may be undertaken over a longer period, perhaps a year.

An experienced mentor can provide advice on what’s reasonable in terms of time frames. For instance, IRB approval may take only a couple of weeks for an expedited review, or it may be a longer period of two months, particularly if the review requires full board approval and the board meets on a monthly basis. Anticipating delays and building in flexibility can be very helpful in avoiding frustration and disappointment—and even abandonment of a worthy project.

WRITING THE REPORT

Reports on research vary from a few pages, as in a microstudy, to many more pages for a thesis. Particularly long reports may be fronted by an abstract or executive summary. Scientific papers often rely on the IMRAD format, an acronym for introduction, methods, results and discussion. That’s actually a good starting point for research in writing, too, but there are no rigid rules. The point is to communicate the research in a clear and accessible manner. Basically, the research describes what was done and what it means, usually ending with a note that future research might take the project in a particular direction. The researcher is also frank about any limitations of the study. It’s important to place the study in the context of what other researchers have done, and it’s also essential to explain why the study has significance or meaning.

There is no one right way to structure the report on the research project, but the sections below are typical, building on the IMRAD format.

- Introduction with problem statement
 - ♦ Explanation of the research question and the overarching purpose of the study
- Theoretical overview and review of literature
 - ♦ Explanation of how this study is situated in the literature of what has come before, the theory or philosophy that informs the research, and what methodology is being used. (*Methodology* is the overarching theory of investigation while *methods* are the tools used in the research process.)

- Context of the investigation
 - ♦ Information about the researcher, the purpose of the research, or the origin of the research question
- Method
 - ♦ Explanation of the approach of the research: classroom observation, surveys, interviews, discourse analysis. (In short, how were data collected and analyzed? If multiple methods were used, these may be addressed in subheadings.)
- Results
 - ♦ Explanation of what was discovered or uncovered during the investigation
- Discussion
 - ♦ Explanation of what it all means, what is significant about the findings
- Implications for policy change and/or further research
 - ♦ Suggestions for where to go from here (Are there implications for changes in practice or policy? Or is this study just a brick in the wall and the researcher recommends further research?)
- References
 - ♦ The bibliography developed at the proposal stage and augmented through the research process
- Appendices
 - ♦ Location of lengthy documents (e.g., transcripts, examples) that would detract from the flow or argument of the report, providing the evidence for readers
- Acknowledgments
 - ♦ List of funding sources as well as acknowledgment of mentors and any participants (not including personal information of protected informants)

ABSTRACTS

Once the report is written, an *abstract* or, perhaps, an executive summary is added. In general, abstracts are one hundred to two hundred words in length. The abstract offers readers an immediate road map of the research. Following is a fairly standard organization.

1. A sentence that summarizes the research problem
2. A sentence that notes why it is significant
3. A sentence that describes the methods used
4. A sentence that summarizes results obtained
5. A sentence that says why these results are significant
6. A return to the first of the abstract with a sentence added that “hooks” the reader (e.g., a rhetorical question). To determine

whether the abstract meets its objectives, subject it to the following Abstract Evaluation Rubric.

TABLE 1.7. Abstract rubric

<i>Components</i>	<i>Poor</i>	<i>Fair</i>	<i>Good</i>	<i>Excellent</i>
Subject and Purpose	The topic and purpose are not clear.	The author describes main idea and purpose of the research/ project.	The main idea and purpose are described as well as the significance of the project.	The project is explained within its larger context.
Method	The method of inquiry is inadequately described.	The method is described.	The methodology, sources, and methods of research are described.	The researcher not only describes the methods but also understands why this method is the best approach.
Results	It is not clear what was found.	What was learned is described.	Outcomes are described in either qualitative or quantitative terms or both.	The results are contextualized within the larger context, and recommendations for further study may be made.

Following is a sample abstract developed by Sara Calicchia (2014) for a presentation at the National Conference on Undergraduate Research.

To “Play That Funky Music” or Not:

How Music Affects the Environmental Self-Regulation of High-Ability Academic Writers

Successful writing, achieved by *self-regulated* writers, depends not only upon focus and content, but also the writing environment, including the physical and social setting, which varies greatly among writers. Just as musical tastes differ among individuals, there are strong preferences regarding the role of music in a writing setting. To better understand the *environmental self-regulation* of writers, I selected a group of twelve high-achieving writers with a range of musical interests, including nine professors and three undergraduate students across three academic fields. The results suggest that musical background impacts a writer’s preferred setting, and academic writers should strongly consider this impact when establishing a successful writing environment.

BIG-DATA RESEARCH

Sherlock Holmes believed that “it is a capital mistake to theorise before one has data. Insensibly one begins to twist facts to suit theories instead

of theories to suit facts” (Doyle 1895). The importance of data in evaluating and thus improving writing programs is crucial. In general, writing program research is undertaken to assess current practices and policies and to determine whether improvements can be made. In this way it is much like teacher research, but writing program research is done on a much larger scale. As such it may employ—as tutor and teacher research does—a mixed-methods approach.

Lauer and Asher (1988) suggest that writing program research may take two forms, either formative evaluation or summative evaluation. In the former, curricula, faculty qualifications and attitudes, student progress, administrative support, environmental factors, teaching methods, kinds of assignments, and grading may be examined. On the other hand, summative evaluation focuses on the results of a program and may be used to seek additional funding, to make administrative decisions about continuance, or to test faculty effectiveness (221). Writing programs tend to be complex entities, whether they are lower-division writing requirements for an entire campus—and the freshman composition course, historically, is the one course all students take; writing-across-the-curriculum or writing-in-the-disciplines programs; writing centers; writing-fellows programs; technical writing; or upper-division or advanced writing programs. They involve not only classroom information but also institutional data on student credit hours produced, salaries and wages of teachers, policy statements on adjuncts, professional-development activities, and graduate-student training.

The Council of Writing Program Administration (CWPA) offers several excellent documents for anyone looking at programs on a big-picture scale. One is an outcomes statement for first-year composition. (See <http://wpacouncil.org/positions/outcomes.html>.) A second is a consultant-evaluator service in which two experts in writing program administration visit a campus as an external review team. This occurs after the writing program itself has done a thorough self-study. (For this document, see the appendix on page 313.) An external review is a formal study of a program with results communicated generally to central administration. It may be considered a specialized form of accreditation, although organizations such as CWPA are not accreditors. The organization functions in the role of peers helping peers.

Research on and evaluation of writing programs can take place on a smaller and less formal basis. Writing fellow Jennifer Corroy (2003) investigated institutional change as a result of the tutoring program in which she worked at the University of Wisconsin–Madison. To do so, she interviewed faculty members who had been involved in using fellows in their classrooms. Corroy’s thesis is that institutional change begins with individuals. In her conclusion she makes recommendations to program directors about how to encourage change. Corroy

demonstrates that it is possible to conduct research on writing programs on quite a small scale.

To improve the practices of writing programs, large-scale assessment and design are often required. Big-data research has come to the fore as writing program administrators increasingly are faced with issues of accountability and assessment (e.g., Moxley 2013). Literally thousands of documents may be examined. In order to do research on this scale, an army of researchers may be necessary—or sophisticated technological tools. That army may arise from those involved in the program already: staff members, graduate assistants, undergraduate tutors. To demonstrate how such large-scale evaluation may take place using limited funds, an extended example of how one university analyzed all of its campus syllabi to investigate the use of writing in courses across the curriculum is presented below. The approach relies heavily on gathering data. The impetus for the research arose from two factors: (1) a writing-fellows program interested in enhancing the teaching of writing on campus and (2) a general-education-reform task force assessing important skills for undergraduates.

Extended Example of a Research Study: Writing Programs

The research questions were, what courses integrate writing into the syllabi and what kinds and types of writing assignments are there? Writing fellows² enrolled in a training seminar took on the task of analyzing syllabi and developing a report for the general education committee. Their task was to review *every syllabus* at the undergraduate level and determine the amount and kinds of writing. The final report offered information and recommendations for curricular change.

Such an undertaking requires the precision of a military operation. The students were tasked with reviewing more than seven hundred syllabi from forty departments. They needed both a theoretical background on writing across the curriculum as well as the nuts and bolts process of getting their hands dirty, so to speak, in physically getting access to the syllabi and reviewing them. These students became, in essence, the army required in order to undertake large-scale assessment. How was the problem of the ubiquitous lack of funding solved? Done on a shoestring, the project was aided by the fact that the students received credit for the course in which the project was done.

To begin, the twenty students³ involved in analyzing and assessing the syllabi of courses undertook a theoretical overview—a review of literature—to learn about the history of writing across the curriculum (WAC). They read such studies as Walvoord and McCarthy (1990), which looks at how students think and write in college, focusing on four classrooms with one hundred students at three different institutions. As Barbara

Walvoord and Lucille McCarthy found, “Twelve of the fifteen major assignments in the four classes asked students for evaluation and/or problem solving in the form of what we call good/better/best questions” (7). The student researchers noted Peter Elbow’s (1986, 33) admonition that “real learning is the ability to apply discipline-based concepts to a wide range of situations and to relate those concepts to the students’ own knowledge and experience.” An earlier WAC study by Bridgeman and Carlson (1984, 271) surveyed academic writing tasks at thirty-four institutions involving 190 academic departments. They found that instructors at that time favored comparison/contrast essays in addition to “argumentation with audience designation.”

The student researchers also reviewed literature about assignment design, particularly Harris’s (2010) wonderful “Assignments from Hell,” Lindemann’s (1995) advice on using heuristics, and Walvoord, Hunt, Dowling, and McMahon’s (1997) study on faculty-development workshops. An assignment from hell, for instance, has no stipulated purpose or audience, asks for too much, and assumes knowledge the student does not have (Harris 2010). The student researchers also looked at institutional WAC newsletters such as Boise State University’s *Word Works*. The investigators were charmed by the candor of a piece on writing assignments as one faculty member reflected on her own assignments: “The papers were dogs. And the mama dog was the assignment” (Leahy 1996). These readings gave the students sufficient background to understand what they would be looking for when reviewing syllabi across the campus.

Institutional policies about general education, writing requirements, and the mission statement formed a second corpus of documents reviewed. For instance, the philosophy statement for general education includes a competency for students “communicating effectively for various purposes and audiences” (Utah State University 1998a). The Institutional Review Board (IRB) was consulted to see whether the research project needed to go through human-subjects approval. The answer at the time was given that the project met the exempt classification for “research conducted in established or commonly accepted educational settings, involving normal educational practices, such as research on regular instructional strategies or research on the effectiveness of or the comparison among instructional techniques, curricula, or classroom management methods” (Utah State University 1998b).

A number of approaches can be used in this kind of project. The students reviewed possible strategies in our toolkit, deciding which to use and which to discard: interviews, observations, video or audiotaping, log or field notes, interest surveys, pre- and posttests. A range of artifacts could be gathered for analysis: journals, essays, protocol analyses, metacognitive reflections, tests, correspondence, personal accounts, syllabi, curriculum statements, institutional catalogs. In this section of

the project, it was important to look at a global picture of the research methodology available.

Supported by the background readings and approaches to methodology, the actual process of collecting and analyzing syllabi began. Before soliciting permission to review syllabi campus wide, the students looked at one department's offerings in order to develop a coding technique for reviewing all syllabi. This analysis was done during class time and provided a dry run or pilot so the students could tinker with the proposed research process. This dry run helped crystallize our definitions so information would be categorized in the same way. For instance, keeping a journal counted as one assignment rather than multiple assignments for each entry. Student researchers noted that *writing-to-learn* tasks may not be graded as opposed to writing used to assess a student's knowledge. Classes associated with internships, independent studies, and student teaching were deleted as were syllabi of courses taught at the institution's regional campuses.

The result was a two-page form the student researchers could use when reading syllabi. The first page captured information on the college, department, course number and title, instructor, enrollment, and number of pages in the syllabus. The number of sections of the course as well as any cross-listing information was recorded. (*Cross-listing* occurs when multiple departments have ownership over a single course, resulting in rather unusual numbering such as Anthro/English/History 450). A second section asked yes/no questions about writing assignments. If the answer was "no writing assignments," the syllabus review for that course was completed. Syllabi that included writing assignments in some way were differentiated by "yes; it has a complete description" or "yes; mentioned in evaluation but with little, if any, directions or description." For the former, the assignment and any references to it in the syllabus were photocopied. For the latter, a follow-up phone call or e-mail to the faculty member asked for a written description or a retelling of oral instructions given in class. The writing assignments collected were described using a table adapted from Walvoord et al.'s *In the Long Run* (1997) (see Table 1.8). This table in its final format was then used to analyze all other campus syllabi.

Prior to the collection of syllabi, a formal process of asking permission took place. Fortunately, this project coincided with a regional accreditation visit, and each department was required to house all syllabi in the department office, making them accessible. Having informed central administration and the deans and secured their approval, the researchers sent the following message to the department heads.

Each year the Writing Fellows undertake a major writing assignment, typically on some aspect of writing across the curriculum. One of the

TABLE 1.8. Table for gathering data on types and kinds of writing assignments (adapted from Walvoord et al. 1997)

Writing assignment type/ genre	# of writing assignments	Page requirement	Purpose specified	Audience specified	Documentation format (e.g., APA, MLA)	Model papers provided?	Evaluation Criteria specified?	Peer Response Group	Faculty/Student Conferences	Referrals to Writing Center
In-class										
Formal essay										
Lab report										
Journal										
Book review										
Essay exam										
Other?										

Note. Please consider number and types of peer revision (e.g., in-class; virtual; take home). Are multiple drafts encouraged? If faculty/student conferences are employed, how many are there? Also record anything that is unusual, notable, or not addressed in these questions.

goals of this assignment is to introduce the students to the scholarly literature in this area and a second is to teach them research methods. For this fall’s project, the Fellows are investigating “the nature of writing assignments in the disciplines.” Given that the recent accreditation visit has created a situation in which every department on campus has its fall quarter syllabi available, this seems the perfect opportunity to see what kinds of assignments occur in classes. We are asking your permission for the Writing Fellows to visit the department at a convenient time and review syllabi. This will be a descriptive report. When we find exemplary writing assignments, we may ask permission of the faculty member to use them in our campus newsletter, *Writing and Speaking @ USU*. Please do not hesitate to share comments with us. We will assume that your administrative assistant is the contact person with whom to set up the appointment for the review. Thank you!

Each of the heads of the forty-five departments on campus was contacted individually by a student to ascertain that permission was truly given and to get an introduction to the administrative assistant. For the most part, each student took on two departments; for instance, one might

review Accounting and Business Information Systems while another fellow asked for three departments in the College of Engineering.

Once permission was granted, the student contacted the designated administrative assistant. Leaving nothing to chance, the students created a guide sheet titled “The Nature of Writing Assignments-across-the-Curriculum Research Process for Data Collection.” The script for introducing themselves to the department contact follows:

Hello, I’m Julia, a Writing Fellow, and we’re doing a research project on “the nature of writing assignments across the curriculum.” The department head, Dr. X, has given us permission to review syllabi. Am I in the right place to do that? [Assuming yes.] Is this a convenient time to do that? [Assuming yes.] Is there a place where I can sit out of your way? [Assuming yes.] After I finish the review, we may need photocopies of the actual assignments. Is it possible to do that here, or is it better to take them to the college office and photocopy there. I would return them quickly if you prefer that method. [After the review, return the syllabi in the same order and condition as you received them and thank the secretary.]

The student then read each syllabus, cross-referencing the *Schedule Bulletin*’s list of courses to ensure all classes listed as being offered during the term actually had representative syllabi on file. As each syllabus was read, the form was completed to capture the details about any writing assignments. If the office staff was reluctant in any way to have assignments photocopied, the student contacted the program director.

Once the department office visit was concluded, the students followed up with faculty members from whom they needed additional information but only after the program administrator had alerted the faculty that they might be contacted. In a memo to university faculty sent a month into the data-collection process, the director explained the writing-fellows program, noting it employed “outstanding undergraduates who are nominated by faculty to serve as tutors for communication across the curriculum.” The information that had been shared with their department heads about the project was included. The names of the students were listed so they would be known should a contact be made. Here is the faculty request:

In many cases, the instructions for writing assignments are included in the syllabus, but when they are not, the student researcher assigned to the department will seek out a copy of the assignment by contacting you. If you feel comfortable in sharing, please do help them. If you prefer not to share, then please let the student know. If you give oral instructions for writing assignments, then the student will interview you and transcribe those. Thank you for your

assistance.

NEXT STEPS: ANALYZING THE DATA

The enormity of the task of analyzing seven hundred syllabi was greatly reduced by the numbers on the team—the “army.” Some syllabi took only a few minutes to review. Once all syllabi were reviewed and writing assignments noted and copied, each student began the process of looking for patterns. They counted assignments and looked at aspects such as genre, methodology, and documentation. The group created a tally guide.

Department _____ offers _____ (number) of classes during this term.

Of these, _____ (number) of classes have multiple sections.

Of the total number of classes, _____ (number) included writing assignments.

The writing assignments offered in classes in this department may be characterized in this way:

HOW OFTEN WRITING OCCURS

Typically, students had to write _____ (average) number of papers/tasks.

The number of writing assignments in classes that were included ranged from a low of _____ to a high of _____.

LENGTH OF PAPERS

The required length of papers ranged from a low of _____ to a high of _____.

The average length of papers was _____.

PURPOSE

Purpose for the writing task is specified in _____ (number) of classes.

Purpose of writing includes _____.

AUDIENCE

Audience for the writing is specified in _____ (number) of classes.

Typical audiences include the following: _____.

DOCUMENTATION FORMAT

The documentation format specified is APA/MLA/Turabian/other.

_____ (number) of classes specified a format for documenting references while

_____ (number) required documentation but did not specify a format.

STUDENT/FACULTY CONFERENCES

Conferences to help student writers were found in _____ (number) of courses.

These conferences typically occurred _____ times during the term.
I would characterize these conferences as _____.

MULTIPLE DRAFTS

In _____ (number) of classes, students were required to submit or work on multiple drafts.

In classes where multiple drafts are required or encouraged, when did evaluation occur? Before or after the final version? In other words, did students revise before receiving a grade or after?

PEER RESPONSE/EDITING

In _____ (number) of classes, peer response groups are required.
In these classes, the group work occurred during class? Outside of class?
Online?

WRITING CENTER

In _____ (number) of classes, students are referred to the Writing Center as a place where they may receive assistance.

MODEL PAPERS

Model or exemplary papers were offered in _____ (number) of classes.
These model papers could be found in the syllabus? On reserve in the Library? Other?

EVALUATION

Evaluation criteria are specified in _____ (number) of classes.
These criteria might be characterized in the following way: _____.
A concern for correctness or grammar, usage, and mechanics in evaluation criteria in _____ (number) of classes. [*Concern* is defined as prominent listing or mention in the syllabus.]

From these quantitative and qualitative comments, student researchers began to formulate thesis statements about what writing assignments mean to a particular department. They decided to differentiate courses taught to meet general education requirements as opposed to those taught for majors. The students also pointed out that the academic fall term may be an atypical one for a department and not represent its values on writing accurately; in other words, limitations to the study were noted. They also found that the enrollment of a particular course affects the number and kinds of writing assignments. In preparing the final compiled report, the students agreed on these commonalities: that *programs*, *departments*, and *colleges* must be differentiated; that a logical organization moves from lowest course number to highest course number;

that course-catalog descriptions may provide additional background; that course names as well as numbers must be included for clarity; and that any assertion must be backed up by data. The students also agreed on stylistic issues of point of view and ethnographic present tense.

COMING TO AND DISSEMINATING CONCLUSIONS

Each department's writing assignments were described in an overview written by the student who had reviewed the syllabus. A portion of the description for a department in the College of Agriculture appears below.

In the Department of Plants, Soils, and Climate, the majority of classes include writing assignments, mostly lab reports but also short answer essay exams. The emphasis for all classes is on understanding the science of the discipline and participating in fieldwork, which results in the many reports that students write. Two classes—Soil and Water Conservation as well as Seed Physiology and Production, require in-depth research papers. For the latter class, the research paper counts for 20% of the final grade. Evaluation criteria and instructions on how to structure the paper are delivered orally in class. The syllabus contains a list of possible topics (e.g., seed production and energy expenditure). For the Soil and Water Conservation course, students work collaboratively on a written conservation plan for the ten-week period of the course. The results are presented orally to the other class members, who offer critiques of the plan. This assignment stands as unique in the department.

Students drew on their data counts to develop the picture of writing in a particular department, such as the following from accounting:

Of the 12 courses offered this term, 11 require at least one writing assignment, but the high number of tasks is indicated in the fact that students average 8 assignments per class, the most common task being written answers to homework questions. Almost one-half of the classes include evaluation criteria, and these criteria emphasize the importance of correct grammar. "All written assignments are to be in a form worthy of professional presentation to the CEO or Board of Directors of a large corporation." In an Introduction to Financial Accounting course, students analyze a company's annual financial report, an assignment that reinforces concepts learned in class and applied to real-life situations. In Income Tax Accounting, a senior-level course, students are given a case study in which they are to prepare information for a situation that is headed to court. They are instructed to "prepare the strongest case possible for both the taxpayer and the

IRS.” The purpose of this assignment is to prepare accountants who can “see both sides of an issue and communicate the information in written form.”

Classes within accounting set high standards for written communication. Sample papers are available for review in faculty offices, and students are encouraged to make use of the writing center. In addition, multiple drafts of papers may be required, and teamwork is encouraged. The Department of Accounting, while focusing on numbers, does not overlook the importance of written and oral communication in the workplace.

The student researchers shared their results in draft versions of their reports with each other. By looking across departments in each college, the students began to detect patterns. This was particularly true of colleges such as the College of Natural Resources, where students, upon completion of their degrees, work in professional careers, usually in state and federal agencies. An orientation course to the fisheries major, for instance, requires resumes and personal-interest statements. Problem-solving assignments for Natural Resource Management are common, particularly in understanding and resolving conflicts among users of public lands. On the other hand, the College of Engineering features very few writing assignments. Writing instruction was found to be relegated primarily to a specific course in technical writing taught within the college by a member of the English department. The capstone project for engineers, however, is a senior design project completed by teams, which typically requires a one-page letter of intent, a thirty-page proposal, and a formal report.

Each of the student's reports was destined to become part of a much larger report to be delivered to the institution's general education committee and also shared more widely with departments and colleges. The following organization for the final report included these sections: problem statement, review of literature, definition of the methodology, results, discussion, implications and recommendations.

MAKING RECOMMENDATIONS

Once all the reports on departmental writing assignments were compiled and edited into one document, the students drew on their theoretical knowledge and practical experience of writing across the curriculum to develop a set of recommendations. The students suggested particular writing assignments that should be featured in the *Writing & Speaking @ USU*, a monthly newsletter sent to the more than eight hundred faculty members on campus. The students recommended workshops for faculty interested in exploring, integrating, or improving writing assignments, drawing on expertise within the English faculty but also including faculty

whose assignments had been found exemplary. The student researchers found when interviewing faculty members that they were particularly concerned about “paper-load” issues and suggested that at least one workshop offer suggestions on evaluating writing.

The research team also believed that courses with intensive writing in the major should be designated as such (e.g., *WI* for *writing intensive*). Such a designation reflects well on a student’s transcript, and it also honors the faculty member who invested the extra time and energy to integrate writing into the course. They knew from their reading in the scholarly literature that this designation is common in institutions that promote writing across the curriculum.

The final report characterized writing in the institution and used tables and graphs to illustrate. Although the students wanted to compare the university’s commitment to writing with other land-grant or research universities, that information was not accessible. The research question—what is the nature of writing assignments at this institution?²—was not one developed by the students, but from that point on, they engaged in the research process and decision making. As writing tutors, they immediately understood why this question was important to the institution, and they felt the methodology could be transferable to other institutions to undertake similar assessments. Their theoretical overview helped them situate the research question in relevant theory and justified an empirically grounded inquiry.

The students decided what methodology to use for data collection and analysis. As they collected information, they also noted confounding factors. For instance, although courses such as internships and independent studies were not included, the students had not taken into account the large number of courses in which writing would be impractical. Introductory courses in foreign languages offer limited writing opportunities, if worksheets can be thus termed. In theatre arts, thirty-two of its forty-three classes focus on technical aspects of production such as makeup, stage lighting, and design. Likewise, in music, thirty-two of the sixty-two classes are devoted to performance, rehearsal, and skills. Thus, when we tallied the total number of classes ($n = 725$) with syllabi analyzed and found that 41 percent of them included writing tasks of some sort or another, it was not a true picture of the amount of writing at the institution. Eliminating classes in which writing was not practical would have created a much higher percentage. In formulating results and conclusions, the students learned there may be outliers or anomalous data that can distort the picture, and these should be discussed in the research report. A final aspect of the data collection they felt should have been noted was the difference between general education courses taught by departmental faculty and courses designed for majors and minors.

Conducting research responsibly requires clearly defined processes. One of the issues that appeared in first drafts of the reports was that the researchers sometimes felt it necessary to be cheerleaders for a department. Students practiced writing objective descriptive statements that are not necessarily positive or negative. The students who developed the data-driven report “The Nature of Writing Assignments at Utah State University” made an impact on curriculum and innovation,⁴ and they acquired methodological skills for developing their own inquiry-based projects.

LESSONS LEARNED

For large-scale assessment projects, there are guidelines to keep in mind.

- Objectivity must be maintained: A good piece of advice is “avoid validating your own opinion or hope”; the goal of research is not necessarily to prove something works.
- The scope of the question must be narrowed to a workable study; can something useful or new be learned within the timeframe allocated?
- Terms should be operationalized to be concrete and specific to the extent possible.
- Whether the question is of real interest to the profession must be addressed.
- Questions about what has been done on this topic before, what the researchers have learned from a review of literature, and the foundation for the study must be answered.
- Researchers must ask themselves whether the research question interests them sufficiently that they will invest in the long haul.
- Generalizing from the research sample to the world is a pitfall and must be avoided.
- Problems should be identified; forthrightness is appreciated.
- The interpretation of the data must be credible.

These guidelines can lead to defining a research project by the problem or question, to zeroing in on a site, to picking subjects and method, and to defining the scope of the project by time and size. The results of the project described above included a descriptive report, which was of value to the institution at a time it was making sweeping changes in curriculum and the academic calendar. As Gerald Graff (2008) notes, “Once we start asking whether our students are learning what we want them to learn, we realize pretty quickly that making this happen is necessarily a team effort, requiring us to think about our teaching not in isolation but in relation to that of our colleagues.” Thus, the research

report was of value not only to the institution but also to the students who engaged in the data collection and analysis.

Reports such as the one generated by the writing fellows on an institution's commitment to writing need not be one-time studies; in fact, it makes sense to replicate such a detailed study on a regular schedule. In this instance, the outcome of the report resulted in a revamped general education program that featured upper-division writing-intensive (WI) courses. To achieve that designation, syllabi were submitted to a writing subcommittee of the general education committee. A few years after the inclusion of WI courses, the project was replicated, focusing on these specific courses and asking the question, do they meet the original criteria for approval? The results were that only 55 percent did so, which led to communication with the teacher of a course to (1) enhance the teaching of writing in the course or (2) to have the WI designation removed. This process is part of a regularly scheduled feedback loop to ensure that principles for general education are followed. The same research process could be used to investigate any aspect of the curriculum: quantitative skills, research skills, honors instruction.

Writing program research can address any one of a number of topics: training composition staff, testing and evaluating students and programs, collaborating with other institutions, outreach to secondary schools, electronic portfolios, admission standards. Likewise, a range of methods can be employed: historical study, textual analysis, case study, ethnography, teacher or tutor research. Writing programs offer some of the most vibrant spaces on a campus for learning and can be exciting sites for practitioner inquiry.

In the two chapters that follow, writing studies is explained in more detail and conducting research ethically is addressed. Both of these chapters further illuminate the research process. By the end of part 1, you should have a good idea about a viable research question, an appropriate method by which to address it, and the tools that can be used to uncover information.

NOTES

1. Richard Braddock, a noteworthy researcher in writing whose work includes such articles as "The Frequency and Placement of Topic Sentences in Expository Prose" (Braddock 1974), is the namesake of the Braddock Award, given to the outstanding essay of the year in *College Composition and Communication*. It was first awarded in 1975, and the corpus of winning essays provides excellent background in writing studies.
2. The writing-fellows program (formerly called *Rhetoric Associates*) is described in Kinkead 1997.

3. The following students conducted the research study “The Nature of Writing Assignments at Utah State University”: Chad Adams, Keri Anderson, Sunni Brown, Cody Clark, Marchet Clark, Natalie Hadfield, Angela Hill, Brooke Jones, Aimee Kawakami, Jared Madsen, Leah Madsen, Betsy O. Moore, Julia Moris, Denise Natoli, Jeffrey Nilson, Debbie Raymond, Jessica Staheli, Bryan Tilt, and Craig Wise. Teri Brown assisted in the final compilation of the report.
4. The General Education Reform Task Force recommended that courses that include intensive writing and speaking assignments be designated as *communications intensive (CI)*. The committee preferred to integrate both writing and speaking into these courses.

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