Walk, Talk, Cook, Eat: A Guide to Using Sources

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Marvin, a college student at Any University, sits down at his computer.* He logs in to the "Online Professor," an interactive advice site for students. After setting up a chat, he begins tapping the keys.

Marvin: Hi. I'm a student in the physician assistant program. The major paper for my health and environment class is due in five weeks, and I need some advice. The professor says the paper has to be 6–8 pages, and I have to cite and document my sources.

O-Prof: Congratulations on getting started early! Tell me a bit about your assignment. What's the purpose? Who's it intended for?

Marvin: Well, the professor said it should talk about a health problem caused by water pollution and suggest ways to solve it. We've read some articles, plus my professor gave us statistics on groundwater contamination in different areas.

O-Prof: What's been most interesting so far?

Marvin: I'm amazed at how much water pollution there is. It seems like it would be healthier to drink bottled water, but the plastic bottles hurt the environment.

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O-Prof: Who else might be interested in this?

Marvin: Lots of people are worried about bad water. I might even get questions about it from my clients once I finish my program.

O-Prof: OK. So what information do you need to make a good recommendation?

Marvin thinks for a moment.

Marvin: I don't know much about the health problems caused by contaminated drinking water. Whether the tap water is safe depends on where you live, I guess. The professors talked about arsenic poisoning in Bangladesh, but what about the water in the U.S.? For my paper, maybe I should focus on a particular location? I also need to find out more about what companies do to make sure bottled water is pure.

O-Prof: Good! Now that you know what you need to learn, you can start looking for sources.

Marvin: When my professors talk about sources, they usually mean books or articles about my topic. Is that what you mean?

O-Prof: Books and articles do make good sources, but you might think about sources more generally as "forms of meaning you use to make new meaning." It's like your bottled water. The water exists already in some location but is processed by the company before it goes to the consumer. Similarly, a source provides information and knowledge that you process to produce new meaning, which other people can then use to make their own meaning.

A bit confused, Marvin scratches his head.

Marvin: I thought I knew what a source was, but now I'm not so sure.

O-Prof: Think about it. Sources of meaning are literally everywhere—for example, your own observations or experiences, the content of other people's brains, visuals and graphics, experiment results, TV and radio broadcasts, and written texts. And, there are many ways to make new meaning from sources. You can give an oral presentation, design a web page, paint a picture, or, as in your case, write a paper.

Marvin: I get it. But how do I decide which sources to use for my paper?

O-Prof: It depends on the meaning you want to make, which is why it's so important to figure out the purpose of your paper and who will read it. You might think about using sources as walking, talking, cooking, and eating. These aren't the only possible metaphors, but they do capture some important things about using sources.

Marvin: Hey! I thought we were talking about writing!

O-Prof: We are, but these metaphors can shed some light on writing with sources. Let's start with the first one: *walking*. To use sources well, you first have to go where they are. What if you were writing an article on student clubs for the school newspaper? Where would you go for information?

Marvin: I'd probably walk down to the Student Activities office and get some brochures about student clubs. Then I'd attend a few club meetings and maybe interview the club leaders and some members about their club activities.

O-Prof: OK, so you'd *walk* to where you could find relevant information for your article. That's what I mean by *walking*. You have to get to the sources you need.

Marvin: Wait a minute. For the article on student clubs, maybe I could save some walking. Maybe the list of clubs and the club descriptions are on the Student Activities web page. That'd save me a trip.

O-Prof: Yes, the Internet has cut down on the amount of physical walking you need to do to find sources. Before the Internet, you had to either travel to a source's physical location, or bring that source to your location. Think about your project on bottled water. To get information about the quality of a city's tap water in the 1950s, you would have had to figure out who'd have that information, then call or write to request a copy or *walk* to wherever the information was stored. Today, if you type "local water quality" into Google, the Environmental Protection Agency page comes up as one of the first hits. Its home page links to water quality reports for local areas.

Marvin pauses for a second before responding, thinking he's found a good short cut for his paper.

Marvin: So can I just use Google or Bing to find sources?

O-Prof: Internet search engines can help you find sources, but they aren't always the best route to getting to a good source. Try entering the search term "bottled water quality" into Google, without quotation marks around the term. How many hits do you get?

Marvin types it in.

Marvin: 5,760,000. That's pretty much what I get whenever I do an Internet search. Too many results.

O-Prof: Which is one of the drawbacks of using only Internet search engines. The Internet may have cut down on the physical walking needed to find good sources, but it's made up for the time savings by pointing you to more places than you could possibly go! But there are some ways you can narrow your search to get fewer, more focused results.

Marvin: Yeah, I know. Sometimes I add extra words in and it helps weed down the hits.

O-Prof: By combining search terms with certain words or symbols, you can control what the search engine looks for. If you put more than one term into a Google search box, the search engine will only give you sites that include both terms, since it uses the Boolean operator AND as the default for its searches. If you put OR between two search terms, you'll end up getting even more results, because Google will look for all websites containing either of the terms. Using a minus sign in front of a term eliminates things you're not interested in. It's the Google equivalent of the Boolean operator NOT. Try entering bottled water quality health -teeth.

Marvin types in the words, remembering suddenly that he has to make an appointment with the dentist.

Marvin: 329,000 hits.

O-Prof: Still a lot. You can also put quotation marks around groups of words and the search engine will look only for sites that contain all of those words in the exact order you've given. And you can combine this strategy with the other ways of limiting your search. Try "bottled water quality" (in quotation marks) health teeth.

Marvin: Only 333. That's more like it.

O-Prof: Yes, but you don't want to narrow it so far that you miss useful sources. You have to play around with your search terms to get to what you need. A bigger problem with Internet search engines, though, is that they won't necessarily lead you to the sources considered most valuable for college writing.

Marvin: My professor said something about using peer-reviewed articles in scholarly journals.

O-Prof: Professors will often want you to use such sources. Articles in scholarly journals are written by experts; and if a journal's peer-reviewed, its articles have been screened by other experts (the authors' peers) before being published.

Marvin: So that would make peer-reviewed articles pretty reliable. Where do I find them?

O-Prof: Google's got a specialized search engine, Google Scholar, that will search for scholarly articles that might be useful (www. googlescholar.com). But often the best place is the college library's bibliographic databases. A database is a collection of related data, usually electronic, set up for easy access to items in the collection. Library bibliographic databases contain articles from newspapers, magazines, scholarly journals, and other publications. They can be very large, but they're a lot smaller than the whole Internet, and they generally contain reliable information. The Internet, on the other hand, contains both good and bad information.

Marvin looks down at his feet.

Marvin: Sounds sort of like looking for shoes. When I was buying my running shoes, I went to a specialty running shop instead of a regular shoe store. The specialty shop had all the brands I

was looking for, and I didn't have to weed through sandals and dress shoes. Is that kind of like a library's bibliographic database?

O-Prof: Exactly. But remember, a database search engine can only find what's actually in the database. If you're looking for information on drinking water, you won't find much in a database full of art history publications. The library has some subject guides that can tell you the best databases to use for your topic.

Marvin: What about books? I did check out the library catalog and found a couple of good books on my topic.

O-Prof: Yes, don't forget about books. You generally have to walk physically to get information that's only in print form, or have someone else bring it to you. Even though Google has now scanned many of the world's books into its database, they won't give you access to the entire book if the book is still under copyright.

Marvin: So I'm back to real walking again.

O-Prof: Yes. Don't forget to ask for help when you're looking around for sources. Reference librarians make very good guides; it's their job to keep up on where various kinds of knowledge are located and help people find that knowledge. Professors also make good guides, but they're most familiar with where to find knowledge in their own fields.

Marvin: I could ask my health and environment professor for help, of course, and maybe my geology and chemistry professors. I'm guessing my music teacher would be less helpful.

O-Prof: One last hint about finding sources. If you find an article or book that's helpful for your paper, look at its reference list. There might be some useful sources listed there.

Marvin: Thanks, Professor. I think I can do some good *walking* now. What about that *talking* metaphor?

O-Prof: Before we move on, there's an important aspect of *walking* with sources that you need to be aware of. In college writing, if you use a source in a paper, you're expected to let the reader know exactly how to find that source as well. Providing this

"source address" information for your sources is known as documenting your sources.

Marvin: What do you mean by a "source address"?

O-Prof: It's directions for finding the source. A mailing address tells you how to find a person: the house number, street, city, state, and zip code. To help your readers find your sources, it's customary to give them the name of the author; the title of the book or article or website; and other information such as date, location of publication, publisher, even the database in which a source is located. Or, if it's a website, you might give the name of the site and/or the date on which you accessed it. Source documentation can be complicated, because the necessary source address information differs for different types of sources (e.g., books vs. journal articles, electronic vs. print). Additionally, different disciplines (e.g., history, philosophy, psychology, literature, etc.) use different "address" formats. Eventually, you'll become familiar with the documentation conventions for your own academic major, but source documentation takes a lot of practice. In the meantime, your teachers and various writing handbooks can provide instructions on what information you'll need.

Marvin: Do I really need to include all that information? A lot of times, the sources I use are readings my teachers have assigned, so they already know where to find them.

O-Prof: Your teachers don't always know where all your sources are from, and they also want you to get into the habit of source documentation. And what about your other readers? If they're deeply interested in your topic, they may want to find more information than you've included in your paper. Your source documentation allows them to find the original source. And there are other reasons for documenting sources. It can help readers understand your own position on a topic, because they can see which authors you agree with and which you don't. It also shows readers you've taken time to investigate your topic and aren't just writing off the top of your head. If readers see that your ideas are based on trustworthy sources, they're more likely to trust what you say.

Marvin: Like, if I used a university or government website on bottled water quality, they'd trust me more than if I just used a bottled water company website.

O-Prof: Yes. But to dig deeper into the question of trust, let's move on to a second metaphor: *talking*. Although the metaphor of *walking* is useful for understanding how to find and document sources, it can give the impression that sources are separate, inert, and neutral things, waiting to be snatched up like gold nuggets and plugged into your writing. In reality, sources are parts of overlapping knowledge networks that connect meanings and the people that make and use them. Knowledge networks are always in flux, since people are always making new meaning. Let's go back to your health and environment project. Refresh my memory. What kinds of questions do you need answers to before you can write your paper?

Marvin: Well, I need to know if bottled water is truly healthier, like the beverage companies claim. Or would I be just as well off drinking tap water?

O-Prof: To answer this question, you'll want to find out who's *talking* about these issues. As Kenneth Burke put it, you can think of sources as voices in an ongoing conversation about the world:

Imagine that you enter a parlor. You come late. When you arrive, others have long preceded you, and they are engaged in a heated discussion, a discussion too heated for them to pause and tell you exactly what it is about. In fact, the discussion had already begun long before any of them got there, so that no one present is qualified to retrace for you all the steps that had gone before. You listen for a while, until you decide that you have caught the tenor of the argument; then you put in your oar. Someone answers; you answer him; another comes to your defense; another aligns himself against you, to either the embarrassment or gratification of your opponent, depending upon the quality of your ally's assistance. However, the discussion is interminable. The hour grows late, you must depart. And you do depart, with the discussion still vigorously in progress. (110–111)

The authors of texts aren't speaking aloud, of course, but they're making written statements that others can "listen" and "respond" to. Knowing which texts you can trust means understanding which authors you can trust.

Marvin: How do I figure that out?

O-Prof: It helps to know who the authors are. What they're saying. Where, when, and to whom they're saying it. And what their purposes are. Imagine the world as divided into many parlors like the one Kenneth Burke described. You'd want to go to the parlors where people who really know something are *talking* about the topics you're interested in. Let's go back to your initial Google search for a minute. Did any Wikipedia articles come up for bottled water?

Marvin: Yeah, and I took a quick look at one of them. But some of my professors say I shouldn't use Wikipedia.

O-Prof: That's because the quality of information in Wikipedia varies. It's monitored by volunteer writers and editors rather than experts, so you should double-check information you find in Wikipedia with other sources. But Wikipedia articles are often good places to get background info and good places to connect with more reliable sources. Did anything in the Wikipedia article seem useful for finding sources on bottled water?

Marvin clicks back to the Wikipedia site.

Marvin: It does mention that the National Resources Defense Council and the Drinking Water Research Foundation have done some studies on the health effects of bottled water ("Bottled Water").

O-Prof: So, you could go to the websites for these organizations to find out more about the studies. They might even have links to the full reports of these studies, as well as other resources on your topic. Who else might have something to say about the healthfulness of bottled and tap water?

Marvin: Maybe doctors and other health professionals? But I don't know any I could ask.

O-Prof: You can look in the library's subject guides or ask the librarian about databases for health professionals. The Cumulative Index to Nursing & Allied Health Literature (CINAHL) database is a good one. Are you logged in to the library? Can you try that one?

Marvin logs in, finds the database, and types in "bottled water AND health."

- Marvin: Here's an article called "Health Risks and Benefits of Bottled Water." It's in the journal *Primary Care Clinical Office Practice* (Napier and Kodner).
- O-Prof: If that's a peer-reviewed journal, it might be a good source for your paper.
- Marvin: Here's another one: "Socio-Demographic Features and Fluoride Technologies Contributing to Higher Fluorosis Scores in Permanent Teeth of Canadian Children" (Maupome et al.). That one sounds pretty technical.
- O-Prof: And pretty narrow, too. When you start using sources written by experts, you move beyond the huge porch of public discourse, where everyone *talks* about all questions on a general level, into some smaller conversational parlors, where groups of specialists *talk* about more narrow questions in greater depth. You generally find more detailed and trustworthy knowledge in these smaller parlors. But sometimes the conversation may be too narrow for your needs and difficult to understand because it's experts *talking* to experts.

Way ahead of the professor, Marvin's already started reading about the health risks and benefits of bottled water.

- Marvin: Here's something confusing. The summary of this article on risks and benefits of bottled water says tap water is fine if you're in a location where there's good water. Then it says that you should use bottled water if the purity of your water source is in question. So which is better, tap or bottled?
- O-Prof: As you read more sources, you begin to realize there's not always a simple answer to questions. As the CINAHL article points out, the answer depends on whether your tap water is

pure enough to drink. Not everyone agrees on the answers, either. When you're advising your future clients (or in this case, writing your paper), you'll need to "listen" to what different people who *talk* about the healthfulness of bottled and tap water have to say. Then you'll be equipped to make your own recommendation.

Marvin: Is that when I start writing?

O-Prof: You've really been writing all along. Asking questions and gathering ideas from sources is all part of the process. As we think about the actual drafting, though, it's helpful to move on to that third metaphor: *cooking*. When you *cook* with sources, you process them in new ways. Cooking, like writing, involves a lot of decisions. For instance, you might decide to combine ingredients in a way that keeps the full flavor and character of each ingredient.

Marvin: Kind of like chili cheese fries? I can taste the flavor of the chili, the cheese, and the fries separately.

O-Prof: Yes. But other food preparation processes can change the character of the various ingredients. You probably wouldn't enjoy gobbling down a stick of butter, two raw eggs, a cup of flour, or a cup of sugar (well, maybe the sugar!). But if you mix these ingredients and expose them to a 375-degree temperature, chemical reactions transform them into something good to eat, like a cake.

Marvin reaches into his backpack and pulls out a snack.

Marvin: You're making me hungry. But what do chili cheese fries and cakes have to do with writing?

O-Prof: Sometimes, you might use verbatim quotations from your sources, as if you were throwing walnuts whole into a salad. The reader will definitely "taste" your original source. Other times, you might paraphrase ideas and combine them into an intricate argument. The flavor of the original source might be more subtle in the latter case, with only your source documentation indicating where your ideas came from. In some ways, the writing assignments your professors give you are like recipes. As an apprentice writing *cook*, you should

analyze your assignments to determine what "ingredients" (sources) to use, what "cooking processes" to follow, and what the final "dish" (paper) should look like. Let's try a few sample assignments. Here's one:

Assignment 1: Critique (given in a human development course)

We've read and studied Freud's theory of how the human psyche develops; now it's time to evaluate the theory. Read at least two articles that critique Freud's theory, chosen from the list I provided in class. Then, write an essay discussing the strengths and weaknesses of Freud's theory.

Assume you're a student in this course. Given this assignment, how would you describe the required ingredients, processes, and product?

Marvin thinks for a minute, while chewing and swallowing a mouthful of apple.

Marvin: Let's see if I can break it down:

Ingredients:

- everything we've read about Freud's theory
- · our class discussions about the theory
- two articles of my choice taken from the list provided by the instructor

Processes: I have to read those two articles to see their criticisms of Freud's theory. I can also review my notes from class, since we discussed various critiques. I have to think about what aspects of Freud's theory explain human development well, and where the theory falls short—like in class, we discussed how Freud's theory reduces human development to sexuality alone.

Product: The final essay needs to include both strengths and weaknesses of Freud's theory. The professor didn't specifically say this, but it's also clear I need to incorporate some ideas from the two articles I read—otherwise why would she have assigned those articles?

O-Prof: Good. How about this one?

Assignment 2: Business Plan (given in an entrepreneurship course)

As your major project for this course, your group will develop a business plan for a student-run business that meets some need on this campus. Be sure to include all aspects of a business plan. During the last few weeks of class, each group will present the plan to the class, using appropriate visuals.

Marvin: I'll give it a try.

Ingredients: Hmm . . . It's hard to tell the sources I'll need. Obviously, whatever the teacher teaches us about business plans in the course will be important—hope she goes into detail about this and provides examples. What if she doesn't? What sources could my group use? Our textbook has a chapter on business plans that will probably help, and maybe we can go to the library and look for books about writing business plans. Some sample business plans would be helpful—I wonder if the Center for Small Business Support on our campus would have some?

Processes: Well, maybe we could have each member of the group look for sources about business plans and then meet together to discuss what we need to do, or talk online. Don't know how we'll break down the writing—maybe we could divide up the various sections of the plan, or discuss each section together, then someone could write it up?

Product: It's clear that we have to include all the information that business owners put in a business plan, and we'll have to follow the organization of a typical plan. But we can't tell exactly what that organization should be until we've done some research.

O-Prof: Here's one last assignment to try out.

Assignment 3: Research Paper (given in a health and environment course)

Write a 6–8-page paper in which you explain a health problem related to water pollution (e.g., arsenic poisoning, gastrointestinal illness, skin disease, etc.). Recommend a potential

way or ways this health problem might be addressed. Be sure to cite and document the sources you use for your paper.

Marvin: Oho, trick question! That one sounds familiar.

Ingredients: No specific guidance here, except that sources have to relate to water pollution and health. I've already decided I'm interested in how bottled water might help with health where there's water pollution. I'll have to pick a health problem and find sources about how water pollution can cause that problem. Gastrointestinal illness sounds promising. I'll ask the reference librarian where I'd be likely to find good articles about water pollution, bottled water, and gastrointestinal illness.

Process: There's not very specific information here about what process to use, but our conversation's given me some ideas. I'll use scholarly articles to find the connection between water pollution and gastrointestinal problems, and whether bottled water could prevent those problems.

Product: Obviously, my paper will explain the connection between water and gastrointestinal health. It'll evaluate whether bottled water provides a good option in places where the water's polluted, then give a recommendation about what people should do. The professor did say I should address any objections readers might raise—for instance, bottled water may turn out to be a good option, but it's a lot more expensive than tap water. Finally, I'll need to provide in-text citations and document my sources in a reference list.

O-Prof: You're on your way. Think for a minute about these three assignments. Did you notice that the "recipes" varied in their specificity?

Marvin: Yeah. The first assignment gave me very specific information about exactly what source "ingredients" to use. But in the second and third assignments, I had to figure it out on my own. And the processes varied, too. For the business plan, the groups will use sources to figure out how to organize the plan, but the actual content will be drawn from their own ideas for their business and any market research they do. But in the third assignment—my own assignment—I'll have to use content from my sources to support my recommendation.

O-Prof: Different professors provide different levels of specificity in their writing assignments. If you have trouble figuring out the "recipe," ask the professor for more information.

Marvin: Sometimes it can be really frustrating not to have enough information. Last semester, I sat around being frustrated and put off doing an assignment as long as possible, then rushed to finish it. I didn't do very well on the rough draft, but then I met with my professor and talked to him. Also, the class read each other's papers. Getting feedback and looking at what other students had done gave me some new ideas for my final draft.

O-Prof: When it comes to "cooking with sources," no one expects you to be an executive chef the first day you get to college. Over time, you'll become more expert at writing with sources, more able to choose and use sources on your own. You'll probably need less guidance for writing in your senior year than in your freshman year. Which brings me to the last metaphor for using sources.

Marvin: Eating, right?

O-Prof: Good memory. In fact, this last metaphor is about memory, which is how sources become a part of who you are. You've probably heard the expression, "you are what you eat." When you *eat* sources—that is, think about things, experiment, read, write, talk to others—you yourself change. What you learn stays with you.

Marvin: Not always. It's hard for me to remember the things I learn in class until the final exam, not to mention after the class is over.

O-Prof: Of course. We all forget a lot of the things we learn, especially those we seldom or never use again; but what you learn and use over a long period of time will affect you deeply and shape the way you see the world. Take a look at this quote from Mark Twain in *Life on the Mississippi*, where the narrator's talking about his apprenticeship as a steamboat pilot. When he first began his apprenticeship, the Mississippi River looked the same as any other river. But after he made many long trips up and down it, with the captain and others

explaining things along the way, he began to see it in all its complexity.

The face of the water, in time, became a wonderful book—a book that was a dead language to the uneducated passenger, but which told its mind to me without reserve, delivering its most cherished secrets as clearly as if it uttered them with a voice. (77–78)

Eventually, the narrator could identify each of the river's bends, knew how its currents were running, and could estimate how deep it was just by looking at the surface. It was the same river, but he was a different man. Your bottled water project isn't as involved as learning to pilot a steamship. But once you start reading your sources, your experience of bottled water will shift. It'll still be the same water you used to drink, but it won't be the same you.

Marvin: I can sort of see that already. I've learned a lot about anatomy and physiology in the physician assistant program. Now, when I see a soccer player, I think about how the shin guard is protecting her tibia, not her shin. If I see someone with yellowish eyeballs, I think about bilirubin levels. And I always read the health section of the newspaper first.

O-Prof: Right. And a journalism major, who takes courses on beat reporting and feature writing, thinks about what will make a good story. A geology major does field work, looks at maps, learns about geological history, and sees rocks everywhere. Over time, through much exposure to a field and practice in it, a person's identity gradually becomes intertwined with his or her profession. Not entirely, of course. All of us are many things. A doctor may have an interest in calligraphy. A business manager might study poetry in her spare time. In both work and leisure activities, you'll keep on learning and making meaning from sources like other people, writing, books, websites, videos, articles, and your own experience. College is about learning how to make meaning. Learn how to walk (find the sources you need); talk (converse with source authors); cook (integrate sources to make new meaning); and eat (allow sources to change your life). You won't ever finish using sources to make meaning—not in your health and environment course, not while you're in college, not even after you've been working and living for a long time.

Marvin glances at his watch.

Marvin: Speaking of time, I should probably grab some dinner before the cafeteria closes. Thanks, Professor, for all your help.

O-Prof: Anytime. Good luck with your paper, and with the rest of your writing life.

Discussion

- 1. What writing assignments have you received from your various professors? How many of them involve working with sources? What kinds of sources do your professors ask you to use?
- 2. What difficulties have you encountered in finding good sources for writing assignments? How have you overcome those difficulties?
- 3. How helpful is the "recipe analysis" technique for understanding how to go about your assignments? What other analysis techniques have you used to understand writing assignments?
- 4. The metaphors in this dialogue explain some aspects of using sources, but not others. What other metaphors can you think of for working with sources? How would those other metaphors add to an understanding of writing with sources?

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