



Googlepedia: Turning Information Behaviors into Research Skills

by Randall McClure

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Randall McClure

INTRODUCTION

The ways in which most writers find, evaluate, and use information have changed significantly over the past ten years.* A recent study, for example, has shown that as many as nine out of every ten students begin the process of searching for information on the Web, either using a search engine, particularly Google, or an online encyclopedia, notably Wikipedia (Nicholas, Rowlands and Huntington 7). I believe this finding is true of most writers, not just students like you; the Web is our research home.

To illustrate for you how the Web has changed the nature of research and, as a result, the shape of research-based writing, I trace in this chapter the early research decisions of two first year composition students, Susan and Edward, one who begins research in Google and another who starts in Wikipedia. Part narrative, part analysis, part reflection, and part instruction, this chapter blends the voices of the student researchers with me, in the process of seeking a new way to research.

Please understand that I do not plan to dismiss the use of what I call “Googlepedia” in seeking information. As James P. Purdy writes

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in his essay on Wikipedia in Volume 1 of *Writing Spaces*, “[Y]ou are going to use [Google and] Wikipedia as a source for writing assignments regardless of cautions against [them], so it is more helpful to address ways to use [them] than to ignore [them]” (205). Therefore, my goal in this chapter is to suggest a blended research process that begins with the initial tendency to use Google and Wikipedia and ends in the university library. While Susan and Edward find Googlepedia to be “good enough” for conducting research, this chapter shows you why that’s not true and why the resources provided by your school library are still much more effective for conducting research. In doing so, I include comments from Susan and Edward on developing their existing information behaviors into academic research skills, and I offer questions to help you consider your own information behaviors and research skills.

UNDERSTANDING INFORMATION LITERACY

Before I work with you to move your information behaviors inside the online academic library, you need to understand the concept of information literacy. The American Library Association (ALA) and the Association of College and Research Libraries (ACRL) define information literacy “a set of abilities requiring individuals to recognize when information is needed and have the ability to locate, evaluate, and use effectively the needed information” (American Library Association). The ACRL further acknowledges that information literacy is “increasingly important in the contemporary environment of rapid technological change and proliferating information resources. Because of the escalating complexity of this environment, individuals are faced with diverse, abundant information choices” (Association of College and Research Libraries). In short, information literacy is a set of skills you need to understand, find, and use information.

I am certain that you are already familiar with conducting research on the Web, and I admit that finding information quickly and effortlessly is certainly alluring. But what about the reliability of the information you find? Do you ever question if the information you find is really accurate or true? If you have, then please know that you are not alone in your questions. You might even find some comfort in my belief that conducting sound academic research is more challenging now than at any other time in the history of the modern university.

WRITING IN A GOOGLEPEDIA WORLD

Teachers Tiffany J. Hunt and Bud Hunt explain that the web-based encyclopedia Wikipedia is not just a collection of web pages built on *wiki* technology¹, it is a web-based community of readers and writers, and a trusted one at that. Whereas most student users of Wikipedia trust the community of writers that contribute to the development of its pages of information, many teachers still criticize or disregard Wikipedia because of its open participation in the writing process, possible unreliability, and at times shallow coverage (Purdy 209), since “anyone, at any time, can modify by simply clicking on an ‘edit this page’ button found at the top of every Web entry” (Hunt and Hunt 91). However, the disregard for Wikipedia appears to be on the decline, and more and more users each day believe the “information is trustworthy and useful because, over time, many, many people have contributed their ideas, thoughts, passions, and the facts they learned both in school and in the world” (91). Wikipedia and Google are so much a part of the research process for writers today that to ignore their role and refuse to work with these tools seems ludicrous.

Still, the accuracy and verifiability of information are not as clear and consistent in many sources identified through Wikipedia and Google as they are with sources found in most libraries. For this reason, I am sure you have been steered away at least once from information obtained from search engines like Yahoo and Google as well as online encyclopedias like Answers.com and Wikipedia. Despite the resistance that’s out there, Alison J. Head and Michael Eisenberg from *Project Information Literacy* report from their interviews with groups of students on six college campuses that “Wikipedia was a unique and indispensable research source for students . . . there was a strong consensus among students that their research process began with [it]” (11). The suggestion by Head and Eisenberg that many students go to Google and Wikipedia first, and that many of them go to these websites in order to get a sense of the big picture (11), is confirmed in the advice offered by Purdy when he writes that Wikipedia allows you to “get a sense of the multiple aspects or angles” on a topic (209). Wikipedia brings ideas together on a single page as well as provides an accompanying narrative or summary that writers are often looking for during their research, particularly in the early stages of it. Head and Eisenberg term this Googlepedia-based information behavior “pre-

search,” specifically pre-researching a topic before moving onto more focused, serious, and often library-based research.

The concept of presearch is an important one for this chapter; Edward’s reliance on Wikipedia and Susan’s reliance on Google are not research crutches, but useful presearch tools. However, Edward and Susan admit they would not have made the research move into the virtual library to conduct database-oriented research without my intervention in the research process. Both students originally viewed this move like many students do, as simply unnecessary for most writing situations.

Talkin’ Bout This Generation

Wikipedia might be the starting point for some writers; however, Google remains the starting point for most students I know. In fact, one group of researchers believes this information behavior—students’ affinity for all things “search engine”—is so prominent that it has dubbed the current generation of students “the Google Generation.” Citing not only a 2006 article from *EDUCAUSE Review* but also, interestingly enough, the Wikipedia discussion of the term, a group of researchers from University College London (UCL) note the “first port of call for knowledge [for the Google Generation] is the [I]nternet and a search engine, Google being the most popular” (Nicholas, Rowlands and Huntington 7). In other words, the UCL researchers argue that “students have already developed an ingrained coping behavior: they have learned to ‘get by’ with Google” (23). I believe we all are immersed and comfortable in the information world created by Googlepedia, yet there is much more to research than this.

Despite the fact that it would be easy and understandable to dismiss your information behaviors or to just tell you never to use Google or Wikipedia, I agree with teacher and author Troy Swanson when he argues, “We [teachers] need to recognize that our students enter our [college] classrooms with their own experiences as users of information” (265). In my attempt though to show you that research is more than just a five-minute stroll through Googlepedia, I first acknowledge what you already do when conducting research. I then use these behaviors as part of a process that is still quick, but much more efficient. By mirroring what writers do with Googlepedia and building on that process, this essay will significantly improve your research skills

and assist you with writing projects in college and your professional career.

The Wikipedia Hoax

At this point in the chapter, let me pause to provide an example of why learning to be information literate and research savvy is so important. In his discussion of the “Wikipedia Hoax,” Associated Press writer Shawn Pogatchnik tells the story of University College Dublin student Shane Fitzgerald who “posted a poetic but phony” quote supposedly by French composer Maurice Jarre in order to test how the “Internet-dependent media was upholding accuracy and accountability.” Fitzgerald posted his fake quote on Wikipedia within hours of the composer’s death, and later found that several newspaper outlets had picked up and published the quote, even though the administrators of Wikipedia recognized and removed the bogus post. The administrators removed it quickly, “but not quickly enough to keep some journalists from cutting and pasting it first.”

It can safely be assumed these journalists exhibited nearly all of the information behaviors that most teachers and librarians find disconcerting:

- searching in Wikipedia or Google
- power browsing quickly through websites for ideas and quotes
- cutting-and-pasting information from the Web into one’s own writing without providing proper attribution for it
- viewing information as free, accurate, and trustworthy
- treating online information as equal to print information

Of course, it is impossible to actually prove the journalists used these behaviors without direct observation of their research processes, but it seems likely. In the end, their Googlepedia research hurt not only their writing, but also their credibility as journalists.

EDWARD, SUSAN, AND GOOGLEPEDIA

Edward and Susan are two students comfortable in the world of Googlepedia, beginning and, in most cases, ending their research with a search engine (both students claimed to use Google over any other search engine) or online encyclopedia (both were only aware

of Wikipedia). Interestingly, Edward and Susan often move between Google and Wikipedia in the process of conducting their research, switching back and forth between the two sources of information when they believe the need exists.

For an upcoming research writing project on the topic of outsourcing American jobs, Susan chooses to begin her preliminary research with Google while Edward chooses to start with Wikipedia. The students engage in preliminary research, research at the beginning of the research writing process; yet, they work with a limited amount of information about the assignment, a situation still common in many college courses. The students know they have to write an argumentative essay of several pages and use at least five sources of information, sources they are required to find on their own. The students know the research-based essay is a major assignment for a college course, and they begin their searches in Googlepedia despite the sources available to them through the university library.

Edward

Edward begins his research in Wikipedia, spending less than one minute to find and skim the summary paragraph on the main page for “outsourcing.” After reading the summary paragraph² to, in Edward’s words, “make sure I had a good understanding of the topic,” and scanning the rest of the main page (interestingly) from bottom to top, Edward focuses his reading on the page section titled “criticism.” Edward explains his focus,

Since I am writing an argumentative paper, I first skimmed the whole page for ideas that stood out. I then looked at the references for a clearly opinionated essay to see what other people are talking about and to compare my ideas [on the subject] to theirs,’ preferably if they have an opposing view.

This search for public opinion leads Edward to examine polls as well as skim related web pages linked to the Wikipedia page on outsourcing, and Edward quickly settles on the “reasons for outsourcing” in the criticism section of the Wikipedia page. Edward explains, “I am examining the pros of outsourcing as I am against it, and it seems that companies do not want to take responsibility for [outsourcing].”

It is at this point, barely fifteen minutes into his research, that Edward returns to the top of the Wikipedia main page on outsourc-

ing to re-read the opening summary on the topic, as I stop him to discuss the thesis he is developing on corporate responsibility for the outsourcing problem. We discuss what I make of Edward's early research; Edward relies on Wikipedia for a broad overview, to verify his understanding on a subject.

Presearch into Research

Analysis: Some teachers and librarians might argue against it, but I believe starting a search for information in Wikipedia has its benefits. It is difficult enough to write a college-level argumentative essay on a topic you know well. For a topic you know little about, you need to first learn more about it. Getting a basic understanding of the topic or issue through an encyclopedia, even an online one, has been a recommended practice for decades. Some librarians and teachers question the reliability of online encyclopedias like Wikipedia, but this is not the point of the instruction I am offering to you. I want you to keep going, to not stop your search after consulting Wikipedia. To use it as a starting point, not a final destination.

Recommendation: Deepen your understanding. Formulate a working thesis. Reread the pages as Edward has done here. This is recursive preliminary research, a process that will strengthen your research and your writing.

After our brief discussion to flush out his process in conducting research for an argumentative essay, I ask Edward to continue his research. Though he seems to identify a research focus, corporate responsibility, and working thesis—that American corporations should be held responsible for jobs they ship overseas—Edward still chooses to stay on the outsourcing page in Wikipedia to search for additional information.

He then searches the Wikipedia page for what he believes are links to expert opinions along with more specific sources that interest him and, in his approach to argumentative writing, contradict his opinion on the subject. Unlike Susan who later chooses to side with the majority opinion, Edward wants to turn his essay into a debate, regardless of where his ideas fall on the spectrum of public opinion.

Research and Critical/Creative Thinking

Analysis: Edward's reliance on Wikipedia at this point is still not a concern. He is starting to link out to other resources, just as you should do. I, however, suggest that you spend more time at this point in your research to build your knowledge foundation. Your position on the issue should become clearer with the more you read, the more you talk to teachers and peers, and the more you explore the library and the open Web.

Recommendation: Keep exploring and branching out. Don't focus your research at this point. Let your research help focus your thinking.

Staying in Wikipedia leads Edward to texts such as "Outsourcing Bogeyman" and "Outsourcing Job Killer." Edward explains that his choices are largely based on the titles of the texts (clearly evident from these examples), not the authors, their credentials, the websites or sources that contain the texts, the URLs, or perhaps their domain names (e.g. .org, .edu, .net, .com)—characteristics of Web-based sources that most academic researchers consider. Even though Edward acknowledges that the source of the "Bogeyman" text is the journal *Business Week*, for example, he admits selecting the text based on the title alone, claiming "I don't read [*Business Week*], so I can't judge the source's quality."

Research and Credibility

Analysis: Understanding the credentials of the author or source is particularly important in conducting sound academic research and especially during the age of the open Web. We live a world where most anyone with an Internet connection can post ideas and information to the Web. Therefore, it is always a good idea to understand and verify the sources of the information you use in your writing. Would you want to use, even unintentionally, incorrect information for a report you were writing at your job? Of course not. Understanding the credibility of a source is a habit of mind that should be practiced in your first year composition course and has value way beyond it.

Recommendation: Take a few minutes to establish the credibility of your sources. Knowing who said or wrote it, what credentials he or she has, what respect the publication, website,

or source has where you found the ideas and information, and discussing these concepts with your peers, librarian, and writing teacher should dramatically improve the essays and reports that result from your research.

What Edward trusts are the ideas contained in the text, believing the writer uses trustworthy information, thereby deferring source evaluation to the author of the text. For example, Edward comments of the “Job Killer” text, “After reading the first three paragraphs, I knew I was going to use this source.” Edward adds that the convincing factor is the author’s apparent reliance on two studies conducted at Duke University, each attempting to validate a different side of the outsourcing debate and the roles of corporations in it. From Edward’s statement, it is clear he needs help to better understand the criteria most scholars use for evaluating and selecting Web-based sources:

- Check the purpose of the website (the extension “.edu,” “.org,” “.gov,” “.com” can often indicate the orientation or purpose of the site).
- Locate and consider the author’s credentials to establish credibility.
- Look for recent updates to establish currency or relevancy.
- Examine the visual elements of the site such as links to establish relationships with other sources of information. (Clines and Cobb 2)

A Text’s Credibility Is Your Credibility

Analysis: Viewed one way, Edward is trying to establish the credibility of his source. However, he doesn’t dig deep enough or perhaps is too easily convinced. What if the studies at Duke, for instance, were conducted by undergraduate students and not faculty members? Would that influence the quality of the research projects and their findings?

Recommendation: Know as much as you can about your source and do your best to present his or her credentials in your writing. As I tell my own students, give “props” to your sources when and where you can in the text of your essays and reports that incorporate source material. Lead-ins such as “Joe Smith, Professor of Art at Syracuse University, writes that . . .” are

especially helpful in giving props. Ask your teacher for more strategies to acknowledge your sources.

Edward's next step in his research process reveals more understanding than you might think. Interested in the Duke University studies cited in the "Job Killer" text, Edward moves from Wikipedia to Google in an attempt to find, in his words, "the original source and all its facts." This research move is not for the reason that I would have searched for the original text (I would be looking to verify the studies and validate their findings); still, Edward indicates that he always searches for and uses the original texts, what many teachers would agree is a wise decision. Finding the original studies in his initial Google query, Edward's research move here also reminds us of a new research reality: many original sources previously, and often only, available through campus libraries are now available through search engines like Google and Google Scholar.

After only thirty minutes into his preliminary research, it's the appropriate time for Edward to move his Googlepedia-based approach significantly into the academic world, specifically to the online library.

Before working with Edward to bring his Googlepedia-based research process together with a more traditional academic one, I ask Edward about library-based sources, particularly online databases. His response is the following: "I am more familiar with the Internet, so there is no reason [to use the library databases]. It is not that the library and databases are a hassle or the library is an uncomfortable space, but I can get this research done in bed." Edward's response is interesting here as it conflicts with the many reports that students often find the college library to be an intimidating place. Edward doesn't find the library to be overwhelming or intimidating; he finds the information in it *unnecessary* given the amount of information available via Googlepedia.

But what if researching in the online library could be a more reliable and more efficient way to do research?

Susan

Susan begins her research where most students do, on Google. Interestingly, Susan does not start with the general topic of outsourcing, opting instead to let the search engine recommend related search terms. As Susan types in the term "outsourcing," Google as a search

engine builds on character recognition software providing several “suggestions” or related search terms, terms that Susan expects to be provided for her, and one—“outsourcing pros and cons”—quickly catches her attention. Commenting on this choice instead of searching by the general concept of outsourcing, Susan notes, “I would have to sort through too much stuff [on Google] before deciding what to do.” She selects “pros and cons” from the many related and limiting search terms suggested to her; Susan states, “I want both sides of the story because I don’t know much about it.”

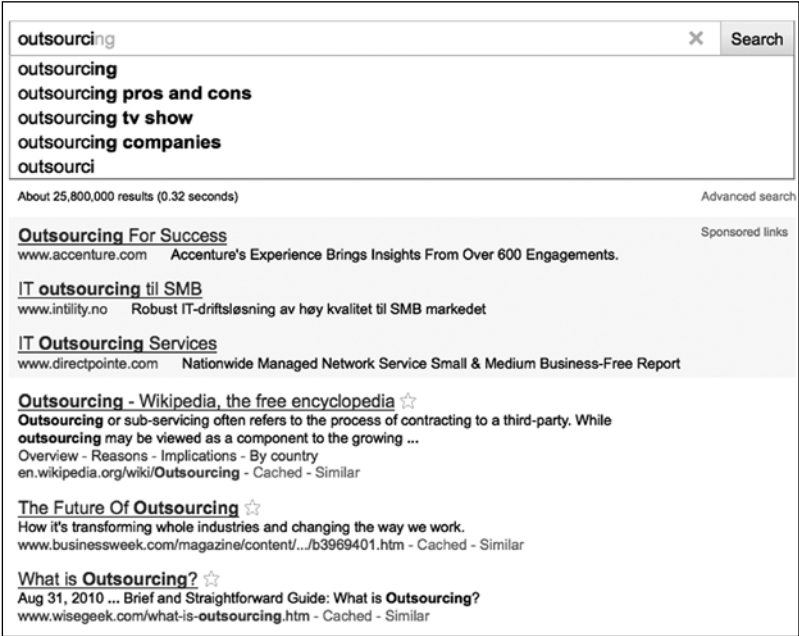


Fig. 1. Outsourcing suggestions from Google.

Susan next moves into examining the top ten returns provided on the first page of her Google search for outsourcing pros and cons. Doing what is now common practice for most Web users, Susan immediately selects the link for the first item returned in the query. I believe most search engine users are wired this way, even though they are likely familiar with the emphasis given to commercial sites on Google and other search engines. Quickly unsatisfied with this source, Susan jumps around on the first page of returns, stopping on the first visual she encounters on a linked page: a table illustrating pros and cons.

Asked why she likes the visual, Susan responds that she is trying to find out how many arguments exist for and against outsourcing. On this page, Susan notes the author provides seven pros and four cons for outsourcing. This finding leads Susan to believe that more pros likely exist and that her essay should be in support of outsourcing.

“Visual” Research

Analysis: There are at least two points worthy of your attention here. First, Susan’s information behavior shows how attracted we all are to visuals (maps, charts, tables, diagrams, photos, images, etc.), particularly when they appear on a printed page or screen. Second, she fails to acknowledge a basic fact of research—that visual information of most any kind can be misleading. In the above example, Susan quickly deduces that more (7 pros vs. 4 cons) means more important or more convincing. Couldn’t it be possible that all or even any one of the cons is more significant than all of the pros taken together?

Recommendation: Consider using visuals as both researching and writing aids. However, analyze them as closely as you would a printed source. Also, examine the data for more than just the numbers. It might be a truism that numbers don’t lie, but it is up to you, as a writer, to explain what the numbers really mean.

Like Edward, Susan is not (initially) concerned about the credibility of the text (author’s credentials, source, sponsoring/hosting website, URL or domain, etc.); she appears only concerned with the information itself. When prodded, Susan mentions the text appears to be some form of press release, the URL seems legitimate, and the site appears credible. She fails to mention that the author’s information is not included on the text, but Susan quickly dismisses this: “The lack of author doesn’t bother me. It would only be a name anyway.” Susan adds that her goal is to get the research done “the easiest and fastest way I can.” These attitudes—there is so much information available in the Googlepedia world that the information stands on its own and the research process itself doesn’t need to take much time—appear to be a common misconception among students today, and the behaviors that result from them could possibly lead to flimsy arguments based on the multiplicity rather than the quality of information.

Research and CRAAP

Analysis: I have referenced criteria for evaluating sources throughout this chapter. If you do not fully understand them, you should consult the resources below and talk with your teacher or a reference librarian.

Recommendation: Learn to put your sources to the CRAAP test (easy to remember, huh?):

- “*Currency:* The timeliness of the information.”
 - “*Relevance:* The importance of the information for your needs.”
 - “*Authority:* The source of the information.”
 - “*Accuracy:* The reliability, truthfulness, and correctness of the informational content.”
 - “*Purpose:* The reason the information exists.”
(Meriam Library)
-
- For specific questions to pose of your sources to evaluate each of these, visit the website for the developers of the CRAAP test at <http://www.csuchico.edu/lins/handouts/evalsites.html>. Another useful site is <http://www.gettysburg.edu/library/research/tips/webeval/index.dot>.

Unlike Edward, Susan is not concerned with engaging in a debate on the subject of outsourcing, regardless of her opinions on it. Susan views the assignment as I think many students would, another “get it done” research paper. Further, she believes the majority opinion, at least as it is discussed in the initial source she locates, should be *her* opinion in her essay. Susan explains, “I tend to take the side that I think I can make the stronger argument for . . . If it was a personal issue or an issue I was really interested in, like abortion, I wouldn’t do this. This topic doesn’t affect me though.”

Good Search Terms=Good Research Options

Analysis: Susan needs to understand why being overly reliant on sources uncovered early on in the research process is a problem (particularly here where the search term pros comes before the search term cons likely leading to the results Susan has received). I hope you also share my concerns with the working

thesis she appears to be constructing, though I recognize that many students approach research papers just this way.

Recommendation: Improve your research by attempting at least a handful of Web searches using different key terms. If necessary, work with the search phrases and terms provided by the search engine. Also, place your search terms inside quotes on occasion to help vary and focus your search returns. Looking at the subject from different perspectives should help you gain a better sense of the topic and should lead you to a thesis and the development of an essay that is more convincing to your readers.

To her credit, Susan understands the need to validate the information provided by her first source, and she examines the original ten search returns for another text that might indicate the number of advantages and disadvantages to outsourcing. This search behavior of relying on the first page of returns provided by a search engine query has been widely documented, if nowhere else but in the experience of nearly every computer user. When was the last time you went to say the fourth or fifth page of returns on Google? Such a research move contradicts the power browsing nature of most of today's computer users, teachers and students alike. As Susan (perhaps, to some degree, rightly) explains, "The farther away from the first page, the less topic appropriate the articles become." I would contend this might be true of the thirty-seventh page of returns; yet, please understand that you should explore beyond the first page of returns when seeking out information via a search engine. Google your own name (last name first as well) some day to see just how curiously search returns are prioritized.

Next, Susan identifies a subsequent source, www.outsource2india.com. This website provides the confirmation that Susan is looking for, noting sixteen pros and only twelve cons for outsourcing. At this point, Susan confirms her process for gathering source material for argumentative essays: she looks for two to three web-based articles that share similar views, particularly views that provide her with arguments, counterarguments, and rebuttals. Once she has an adequate list of points and has determined which side of a debate can be more effectively supported, Susan refines her Google search to focus only on that side of the debate.

Don't Rush to Argument

Analysis: There are two concerns with Susan's research at this point: (1) her rush to research and (2) her rush to judgment.

Recommendation: In addition to reworking your research process with the help of the ideas presented in this chapter, consider building your understanding of writing academic arguments. In addition to your writing teacher and composition textbook, two sources to consult are http://www.dartmouth.edu/~writing/materials/student/ac_paper/what.shtml#argument and <http://www.unc.edu/depts/wcweb/handouts/argument.html#2>.

Similar to the way she began searching for information only fifteen minutes earlier, Susan uses Google's "suggestions" to help her identify additional sources that support the side of the debate she has chosen to argue. As she types in "pros outsourcing," Susan identifies and selects "pro outsourcing statistics" from the recommended list of searches provided by Google in a drop-down menu. Like Edward, Susan is interested in validating the points she wants to use in her essay with research studies and scientific findings. Susan comments, "Statistics. Data. Science. They all make an argument stronger and not just opinion." Susan again relies on the first page of search results and focuses on title and URL to make her selections. As she finds information, she copies and pastes it along with the URL to a Word document, noting once she has her five sources with a blend of ideas and statistics together in a Word file that she will stop her research and start her writing.

Track Your Research/Give Props

Analysis: Susan demonstrates here the common information behavior of cutting-and-pasting text or visuals from Web pages. She also demonstrates some understanding of the value of quantitative research and scientific proof. She also appears to use Word to create a working bibliography. These behaviors are far from perfect, but they can be of some help to you.

Recommendation: Learn to use an annotated bibliography. This type of research document will help you with both remembering and citing your sources. For more information on building an annotated bibliography, visit http://www.ehow.com/how_4806881_construct-annotated-bibliography.html. There

are also many software and online applications such as Zotero and RefWorks that can help you collect and cite your sources. Next, make sure to do more than just cut-and-paste the ideas of others and the information you find on the Web into an essay or report of yours.³ **Learn to use paraphrases and summaries** in addition to word-for-word passages and quotes. The Purdue OWL, a great resource for all things research and writing, explains options for incorporating research into your own writing: <http://owl.english.purdue.edu/owl/resource/563/1/>. Finally, realize the value and limitations of statistics/numerical data and scientific findings. This type of research can be quite convincing as support for an argument, but it takes your explanations of the numbers and findings to make it so. You need to explain how the ideas of others relate to your thesis (and don't forget to give props).

Edward and Susan: Remix

As you know by now, I certainly have concerns with Susan's and Edward's research process; however, I recognize that the process used by each of these students is not uncommon for many student researchers. More importantly, each process includes strategies which could be easily reworked in the digital library.

Yes, I am concerned that Susan doesn't recognize that you can find two or three sources on the Web that agree on just about anything, no matter how crazy that thing might be. Yes, I am concerned that Susan opts out of forming an argument that she truly believes in. Yes, I am concerned that both Susan and Edward trust information so quickly and fail to see a need to question their sources. Despite my concerns, and perhaps your own, their Googlepedia-based research process can provide the terms they need to complete the research in more sound and productive ways, and the process can be easily replicated in an online library.

Based on their Googlepedia research to this point, I suggest to Edward that he construct his essay as a rebuttal argument and that he use the search terms "outsourcing" and "corporate responsibility" to explore sources available to him from the library. For Susan, I suggest that she too construct a rebuttal argument and that she use the search string "outsourcing statistics" to explore sources in the university's vir-

tual library. (For more information on writing rebuttal arguments, visit <http://www.engl.niu.edu/wac/rebuttal.html>.)

Given the influence and value of using search engines like Google and online encyclopedias like Wikipedia in the research process, I recommend the following eight step research process to move from relying on instinctive information behaviors to acquiring solid research skills:

1. Use Wikipedia to get a sense of the topic and identify additional search terms.
2. Use Google to get a broader sense of the topic as well as verify information and test out search terms you found in Wikipedia.
3. Search Google again using quotation marks around your “search terms” to manage the number of results and identify more useful search terms.
4. Search Google Scholar (scholar.google.com) to apply the search terms in an environment of mostly academic and professional resources.
5. Do a limited search of “recent results or “since 2000” on Google Scholar to manage the number of results and identify the most current resources.
6. Search your college’s library research databases using your college library’s web portal: to apply the search terms in an environment of the most trusted academic and professional resources.
7. Focus your search within at least one general academic database such as Academic Search Premier, Proquest Complete, Lexis/Nexis Academic Universe, or CQ Researcher to apply the search terms in a trusted environment and manage the number of results.
8. Do a limited search by year and “full text” returns using the same general academic database(s) you used in step 7 to reduce the number of results and identify the most current resources.

I admit that this process will certainly seem like a lot of work to you, but I want to emphasize that Edward and Susan completed this sequence in less than thirty minutes. After doing so, Edward even commented, “If someone had shown me this in high school, I wouldn’t be going to Wikipedia and Google like I do.” Susan added that even

with her search terms, Google still presented challenges in terms of the number of potential sources: "Google had thousands of hits while Galileo might have less than 100." For students who value speed and ease, this remixed process resonated with them, and I believe it will with you.

More importantly, the remixed process addresses some of the concerns that could have hindered the research and writing of both students if they only worked with Googlepedia. By remixing and sequencing research this way, they worked with issues of currency, credibility, accuracy and bias among others, criteria vital to conducting sound research. This is not to say that Susan and Edward failed to understand or could not apply these concepts, particularly given that our research time was limited to sixty minutes total (thirty minutes researching alone plus thirty minutes for cooperative research). However, any student who makes this research move will find a more viable and valuable research path. As Edward said, "[The library sources] produced a narrowed search pattern and created less results based on a more reliable pool from which to pull the information."

The research approach I am suggesting can be quick and easy, and it can also be more connected to the values of researchers and the skills of adept information users. Don't take just my word for it though. Consider Susan's closing comment from the questionnaire she completed after our research session:

I really hadn't ever thought of using library sources in looking up information because I've always used open Web resources. I now know the benefits of using library sources and how they can simplify my search. I found being able to categorize articles by date and relevancy very helpful . . . I am inclined to change the way I research papers from using the open Web to using library sources because they are more valid and it's as easy to use as Google.

In just a single one-hour-long preliminary research session, Susan and Edward were able to utilize the research behaviors they were comfortable with, were encouraged to continue starting their research in Googlepedia, and learned to remix their behaviors inside the online library. Working on your own or with a teacher or librarian to make the research move from Googlepedia to the library, as I suggest in this

chapter, should help to improve the quality of your research and your writing based upon it.

CONCLUSION

Susan Blum notes that “if we want to teach students to comply with academic norms of [research], it may be helpful to contrast their ordinary textual practices—rich, varied, intersecting, constant, ephemeral, speedy—with the slower and more careful practices required in the academy” (16). Working through the research process as we have in this chapter, we are moving away from *the* research process to a combination of *our* process, as librarians and teachers, with *your* process—a process that blends technological comfort and savvy with academic standards and rigor. I believe this combination makes for an intellectual, real, and honest approach for researching in the digital age. Blum comments, “By the time we punish students, we have failed. So let’s talk. These text-savvy students may surprise us” (16). Susan and Edward have done just that for me, and I hope you have learned a little from them, too.

DISCUSSION

1. In the discussion of Edward’s preliminary research, several characteristics of a Web-based source that most academic researchers consider are mentioned including the title of the webtext, the author, his or her credentials, the website or source that contains the webtext, the URL, and the domain name (e.g. .org, .edu, .net, .com). What characteristic or characteristics do you examine if any? Which ones do you believe are the most important? Why?
2. Susan mentions that she “would have to sift through too much stuff” when searching for information on Google. Do you agree that Google provides too much information to examine? Why or why not? In addition to Susan’s approach of using a search term suggested by Google, what strategies do you have for limiting the information returned to you when seeking information using a search engine?
3. Type your name or your favorite subject into a search engine, such as Google or Yahoo. What do you notice about the search

returns? How do the returns appear to be prioritized? From the results you see, consider how the rankings of returns could help and hurt your research for an academic paper if you relied only on a search engine for your information. Discuss your response with a group of classmates.

4. Try working with Susan's search terms in reverse—the “cons” and “pros” of outsourcing. Use a search engine like Google or Yahoo to compare the results when you switch the order of search terms. How are the results for the “cons and pros of outsourcing” similar to and different from the results for the search for the “pros and cons of outsourcing”? Discuss your findings with a group of classmates.

NOTES

1. Wikis are websites that allow a user to add new web pages or edit any page and have the changes he or she makes integrated into that page.

2. See pages 209–211 in Purdy for more discussion on the value of Wikipedia in preliminary research.

3. See pages 217–218 in Purdy for an example of a student engaging in written conversation with her sources rather than just “parroting” them.

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