

1-1-2018

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Recommended Citation

Ahern, Kati Fargo (2018) "Embodied Databases: Attending to Research 'Places' through Emotion and Movement," *The Journal of the Assembly for Expanded Perspectives on Learning*: Vol. 23 , Article 8.

<https://doi.org/10.7290/jaepl23egyo>

Available at: <https://trace.tennessee.edu/jaepl/vol23/iss1/8>

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Embodied Databases: Attending to Research “Places” through Emotion and Movement

Kati Fargo Ahern

“This inquiry into and out of emotion cannot occur, however, unless emotion is understood as one feature of meaning making, equal to other features, and thereby deserving of a legitimate role in pedagogical settings....”

—Shari Stenberg, “Teaching and (Re)Learning the Rhetoric of Emotion”

“The three Rs of athletic training—rhythm, repetition, response—lie at the very heart of Isocrates’s conception of training. The word Isocrates uses for both athletic and rhetorical training—epimeleias—is worth consideration here... ”

—Debra Hawhee, “Bodily Pedagogies”

Composition instructors are increasingly called upon to introduce students to information literacy, information architecture, and most specifically, online database research. However, our pedagogical approaches to introducing students to the differences between databases and database selection are sometimes disembodied at best. Certainly, we know when to visit different databases and what affordances different databases have, causing us to choose ProjectMuse over JSTOR or LexusNexus, or to determine when PsychInfo is better than GoogleScholar. However, barring previous experience, this is not the case for students, and we must often overcome their predilection to use a Google search for everything.

As the two quotations above emphasize, this may be a matter of reconnecting students to both an emotional and bodily experience of database research. While many students profess to having had strong (often negative) emotions regarding database research, they are less likely 1) to draw on those emotions productively and 2) to have had any sense of a physical, embodied, or proprioceptive experience regarding visiting online databases. In an important sense this matter of disembodiment is not simply a lack of richness in our students’ experience of database research, but may also have to do with what Richard Lanham calls a bi-stable oscillation of attention, as well as issues more generally of the place of affect within pedagogy. Students do not directly *attend* to databases as particular, material places, and they do not draw productively on their affective experiences of database research. However, I will argue that such a shift in attention to the rhetorical practices of effective database selection—knowing how to select databases as particular research *places*—could be better addressed through an embodied, affective, and kinesthetic pedagogy.

In the early 90s, Richard Lanham in *The Electronic Word* began to play with two ideas that have become increasingly important—1) that texts exist in a bi-stable oscillation between our looking “THROUGH” a text and “AT” it (that is to say, looking transparently beyond features of a text versus attending directly to the choices, features, and effects of a text as consciously designed) and 2) that in an age of increasing information we need greater mechanisms of attention. According to Lanham, “The textual surface has become permanently bi-stable. We are always looking first AT it and then

THROUGH it, and this oscillation creates a different implied ideal of decorum, both stylistic and behavioral” (5). This bi-stable oscillation is not only important on the text by text basis that Lanham suggests, but also in thinking about how we interact with technology, media, and in this case, online databases. In addition to this adaptive shift back and forth between THROUGH/AT, Lanham also recognizes that the increase of information available to us makes exhaustive searching no longer possible. There is simply too much available on any given topic, and he connects this explicitly to the new work of libraries and information science/information literacy/information architecture. “Librarians of electronic information find their job now a radically rhetorical one—they must consciously construct human attention-structures rather than assemble a collection of books according to commonly accepted rules” (Lanham 134). This is similar to the work that our students must do now as well. They may no longer simply check all the available databases, only the databases their instructors tell them to, or only check Google because it is popular, socially accepted, and easy. Instead, students must attend and build into their research process an attention-structure and set of strategies for adaptively, *rhetorically* selecting databases (as places) to visit.

Many students are unaware of the materiality and location involved in online databases or the retrieval of information via search engines. The material and locative aspects of servers, publishing organizations, journals, and so forth can be overwhelming or simply ignored through a lack of attention. Students are often left with a sense that online databases are hopelessly disembodied and amorphous. They all seem to occupy the same nebulous “non-place” of residing “on the internet” at worst and “on the library webpage” at best. If the goal is to see database selection as involving specific research *places*, then it may be necessary to effect a shift in attention such that students look AT online databases. In the next section I will consider some of the ways in which we have tried to further help students to understand databases as “emplaced.”

Databases and Attention to Place

Over fifteen years ago, Michelle Sidler questioned how to get students to understand their selection of texts from online databases, specifically their use of Proquest, to retrieve different genres of texts (such as newspaper, journal, or magazine articles) as opposed to other online webpages outside of databases. Sidler noted that one of the complicating factors for students was that “These online texts [in Proquest] present only simple graphic design and little interactivity, relying primarily on what I call ‘disembodied text’” (59). Her point was that in one sense the move away from accessing print materials gave students less information about a text’s genre since it was no longer connected to the visual or material aspects of its printed form (e.g. the “gloss” of the magazine page.) Furthermore, Sidler states that the issue of “formless” disembodied text is exacerbated by students’ lack of understanding for the situated-ness of places on the internet:

Online databases like ProQuest provide an illuminating example of the need for spatial orientation when analyzing online genres. Johndan Johnson-Eilola (1997) recognized the tendency for online databases to confuse and disrupt students’ abilities to find themselves in virtual space. He argued that systems like ProQuest present “immense, dynamic spaces through which users move” (103). Such spaces must be navigated and mapped by “consumers of information” in order to understand their power and

significance (103). The navigation process of online research is in many ways different from traditional library research because access to information is more immediate and includes different generic features that distinguish texts. (61–62)

Sidler then goes on to cite Nedra Reynolds in calling for students to map imagined geographies: “As teachers of Web research, we need to help students become oriented to different online neighborhoods and discuss how one online neighborhood might lead to information that is qualitatively different from information in another area” (Sidler 63). This idea of difference and location is one that persists today in getting students to thoughtfully select from a variety of online databases. In order to accomplish this task, Sidler had students work with cognitive mapping exercises on the assumption that they would be able to “apply their own experience of learning layouts of cities to learning the metaphorical communities on the Web” (65).

While Sidler is primarily concerned with having students recognize that databases like Proquest are different from any other sites on the internet my main objection is actually one that comes from Nedra Reynold’s later book, *Geographies of Writing: Inhabiting Places and Encountering Difference*. In this book she examines cultural geography students who, despite their training, show their reticence in encountering new places or spaces (89–109). In other words, I am not so sure that we can take as given that students (or any of us) are applying knowledge of mapping known, physical spaces to our knowledge of geographies of unknown physical spaces *or* online spaces. Thus, rather than enacting a purely geographical approach to teaching the difference and different ways of “dwelling” within the “neighborhoods” of different online databases, I propose taking a more bodily and embodied approach, one that might differently draw attention to affect.

In *Embodied Literacies*, Kristie S. Fleckenstein argues for a “poetics of teaching.” Rather than any specific pedagogical practice, she calls us to acknowledge the “fusion” of ways of knowing and meaning-making through “somatic literacy,” “polyscopic literacy,” and “lateral literacy” (78–79). In her configuration, “somatic literacy encompasses the reciprocity of places and bodies” (78). Furthermore,

A combination of corporeal and spatial literacies, somatic literacy concerns how we construct and participate in the world through our bodies and how we know the world as bodies positioned in specific sites. It embraces the level of kinesthetic learning, from proprioception that allows us to orient ourselves spatially in the world to the twitch of our fingers on an imaginary keyboard when we think about writing. (79)

Somatic literacy and somatic awareness seems to be missing from the ways that we think about teaching database research. Rather than students feeling connected to the bodily, spatial aspects of choice when making a decision about which database to *visit*, rather than feeling the twitch of fingers choosing “here” not “there,” students seem to be lost in the concept of internet space, totally devoid of their own bodily awareness.

Another complicating factor to improving students’ sense of “somatic awareness” may have to do with their conception of database research as not really writing. While we may certainly see the choice of a database as rhetorically significant in the same way that the choice of a topic, keywords, or any other step in the writing and research process is a matter of rhetorical consequence, students may also feel detached from a process that only seems to prevent them from starting their writing project. In other words, researching does not seem like an active part of a “writing” process. Thus, efforts to

“write” through searching should be presented in ways that value the micro-moments of writing through searches and database use. James Purdy has noted the need for an integration of writing and research through the affordances of Web 2.0 research tools based on the compression of space and time in research environments that allow for writing practices. His point is that writing and research must be more fully integrated given that many research environments unite practices of reading, research, and writing (49). In 2015 Lavinia Hirsu echoes Purdy in noting that not only does the use of tools enable a closer relationship between research and writing, but also that students must be better educated on the consequence of writing of tags and searches within search engines like Google, which can influence the structure of the retrieval results. Hirsu states that while Google is still the most widely popular search engine in usage, students must also be made aware that search engines are “social and political mechanisms” (30). There is no such thing as “just Googling it” without also impacting the structure of future searches and on a large scale that sometimes has very material, economic, and political consequence. This has been evident in current events where a country’s top search terms may become a source of news.

In an attempt to help students gain a sense of databases as real, material places, I argue for a return to Fleckenstein’s notion of “somatic literacy.” However, rather than immersing students in a list of endless databases—a seemingly unending list of alphabetized links or drop-down boxes—and asking them to immediately consider “mapping” their bodies in those online spaces, I believe we may first need students to have a concrete emotional and bodily experience of database selection, one that they will explicitly attend to, using Lanham’s concept of shifting from looking THROUGH the notion of a database as a transparent portal to “information” to looking AT the concept of databases as places. This first step may be necessary in order to then help students to shift their understanding of database research from the immateriality of cyberspace to the material, locatable, and particular.

Attending to Emotion and Bodily Knowledge

Laura Micciche has noted the absence and/or undervalued position emotion has occupied, often placed in opposition to reason and rationality. Micciche argues that “To suggest that emotional impulses obscure rational thought is to ignore the way in which these impulses *often motivate and intertwine* with ‘rational’ policy-making, a merging that resists bracketing the emotional from the ethical and rational” (“Emotion” 173, emphasis mine). Furthermore, in a piece responding to Jenny Edbauer’s 2005 *JAC* article on affect, Micciche offers three concrete activities that the “trouble with affect” enable—“to agitate and disturb; to interfere or interrupt; and exert oneself or take pains toward achieving a goal” (“Response” 267). Of these activities, what seems most relevant to a proposed pedagogy of using affect to create attention for students’ understanding of databases is the idea of agitating and disturbing. “In another sense, agitation is a form of protest and radicalization; it calls attention to a problem and makes a stink about it. To agitate is to bother to care; to disturb is to insert a blip in an otherwise settled moment” (Micciche 268). A pedagogy of affect regarding database selection may involve harnessing this potential for emotional experience to break the seamlessness of database

research—to cause problems, to protest the ease of selecting a database, to call attention to the seamed quality of research *places*. Students may feel that their emotional experiences with database research are only an unacceptable by-product of “research gone wrong” and not conforming to norms of unemotional rationality so often aligned with learning. However, their emotions have the potential to provide both the motivation and shift in attention needed to make more reasoned, rhetorically effective choices. This sentiment also returns to the point that Sternberg makes in one of this essay’s opening quotations: until we see emotion as having meaning-making potential, we lose out on legitimate and effective strategies for reaching students. In other words, constructing an experience that foregrounds the frustration, elation, pride, or annoyance of database research could be productive in its disruption, in causing students to shift their attention.

In addition to the importance of emotion in shifting practices of attention, I also argue that a shift in attention is possible through an explicit connection to the body and Fleckenstein’s “somatic literacy.” In the opening of her article, “Words Made Flesh,” Fleckenstein recounts an experience with her daughter Anna learning to draw stars. When Anna’s sister begged her to teach her, Fleckenstein’s daughter replied “I can’t. I don’t know how. Only my hand knows” (612). Fleckenstein goes on to discuss the complex relationship between the discursive, nondiscursive, and embodied literacies that make such a sentiment possible, where Anna’s hand may know how to draw stars, but she is herself unable to articulate or teach the process. In an opposing sense, this seems to be the case for many students when conducting database research. They are unable to articulate what happens in the process of rhetorically selecting a database in which to conduct research. However, they *also* lack the bodily experience or connection to somatic literacy that might allow them to understand that knowledge first through nondiscursive means. Rather than being so immersed in an embodied process they are unable to discursively know or articulate, students are divorced from a sense of databases as involving bodily experience and requiring navigation beyond a rapid “point and click” selection. Unlike Anna engaged in the bodily knowledge of making stars, database research feels devoid of the bodily or somatic literacy, and perhaps that is a problem of students’ conception of online space as lacking embodiment or material. It may also speak to our lack of emphasis on the embodied notion of “doing” in database selection. I suggest that if database research was connected to bodily knowledge, perhaps that could enable the development of discursive knowledge.

The importance of bodily knowledge or somatic literacy is also not a new concept. Bodily ways of knowing connect back to the rhetorical tradition in Ancient Greece, where such knowledge was once situated within rhetorical education and explicitly valued. In “Bodily Pedagogies: Rhetoric, Athletics, and the Sophists’ Three Rs,” Deborah Hawhee clearly outlines a history of connection between rhetorical training and athletic training in Ancient Greece, both in pedagogical approach and in the shared spaces of the gymnasia. While Hawhee is suspicious of any easy application of her work to immediate classroom use, she does note the productive value of the three Rs of athletic training—“rhythm, repetition, response”—and how they may be helpful in thinking about what has been lost in our own practices (149). “Sophistic pedagogy emphasized the materiality of learning, the corporeal acquisition of rhetorical movements through

rhythm, repetition, and response. This manner of learning-doing entails ‘getting a feel for’ the work—following and producing a rhythm” (Hawhee 160). “Getting a feel for” of database selection is one of the aspects of a somatic awareness that is missing for students. While students have a distinct feel for moving between windows and tabs and pulling up Google searches or deftly clicking links from a list of options, perhaps what is missing is a more intentional bodily *response* to the rhetorical needs of visiting specific databases as places. Visiting a place involves movement, bodily knowledge, and emotional response. If these experiences could be engendered for students, this may help them to conceptualize databases as distinct, particular places.

In order to create that response or responsiveness for students, I will outline an intervention that calls on students to fully shift their attention to databases as places by drawing on affect and bodily movement. This intervention involves a physical, offline database research simulation that I designed, in which students embody different databases (in pairs) and then engage in visiting each other (as databases) representing specific places. After describing and unpacking this simulation as a classroom intervention, I will finally return to some of the earlier points about mapping.

Transforming Students into Databases: Setting Up the Simulation

In order for students to *become* databases they first need to have an experience of tagging. First, I have students get into pairs and discuss different contexts of tags (such as tags on clothing, graffiti, hashtags, tagging sharks) and how those tags relate to purposes or functions. For instance, tags allows us to search, trace information, keep track of something (like the shark,) know what to do with an item (like the price or washing instructions for tags on clothes,) or mark an item as a territory or larger group of like ideas. With the popularity of hashtags on social media, this discussion is usually quite brief.

Next, each pair of students receives a sheet of paper (see Appendix A) with a list of eight academic journal article titles. Some of these are real academic journal article titles, and some are fictional. They reflect vocabulary students may not know, difficult subjects, and approaches that cover a range of disciplines.¹ However, while all pairs receive the same list of eight article titles, each sheet, importantly, also contains a different set of *secret* tagging instructions (in bold at the top). Students must first and foremost follow their own tagging instructions in trying to come up with the best fitting tags but may not share their tagging instructions with other pairs. For example, each sheet of paper will list the same title for article #6 (see Appendix A): “Shrinking in a Growing Economy? The Mystery of Physical Stature during the Industrial Revolution.” The group with the secret instructions to tag using “only nouns” might develop a tag like *Stature/Economy/Industrial Revolution*, while the group instructed to “only use words a third-grader would know” might use something like *Height/Size/History*. Finally, the group whose instructions are to create a tag “using only rhyming words” might eventually get to something like *Height/Plight*. Other possible secret tagging instructions could be as follows: only verbs, only alliterations, only slang, only two-syllable words, only five-

1. These article titles could easily be replaced by any other journal article titles or revised to focus on a single discipline.

letter words, and so forth. Throughout this process of tagging I stress that each pair must write down a string of two to three words, and that no other groups will be able to see their tags. The only rule is to keep the tagging instructions secret and to generate at least two to three words that will be treated as a single tag in the same way a social media hashtag is really the sum of a string of words. (For example #HumbleBrag.) Once each group has at least one two-to-three word tag for every article, the pairs are ready to embody databases.

Students Embody Databases: The Simulation

When every pair has generated a tag for each of the eight articles, I instruct one person per pair to stay seated and the other member to stand. The seated person holds the piece of paper with the pair's tags and will "become" the database first. The standing person receives a new piece of paper (see Appendix B). Each standing person will become a researcher and must move around the room to another seated person who is not the original partner. Then the standing person must "search" for one of the articles.

The searching part of the simulation involves multiple exchanges between seated students acting as databases and standing students acting as researchers. A researcher might say: "I'm looking for article #4, um, *Stories/Girls/Power*. Are those your tag?" Since all the pairs have wildly different tagging instructions, it would be extremely unlikely for the standing person to guess the exact match. Unless the person standing guesses the *exact* tags that the seated person has on his sheet of paper, the seated person shakes his head or gives a "thumbs down" sign. At no point can the seated person give hints, talk, or tell the secret tagging instructions. What this means is that the students who are acting as researchers will experience a lot of rejection, at least at first. In fact, one of my colleagues, who has run this simulation in her classes as well, reported one student being so frustrated he just wanted to stand in the middle of the room and shout terms to all the seated people. She told him to "hold that thought" for the discussion, because it would be important.

Although simulations by nature vary based on participants, there are some common features or experiences for this simulation. After multiple exchanges and some initial frustration and rejection, many students start to give up. Then, one or two standing "researchers" might start "getting" some of the articles by receiving a "thumbs up" sign. This could be because they are lucky, or are visiting databases with a less tricky secret set of instructions (like "only nouns" versus "rhyming,") or because the standing person is saying a *really long* string of keywords and finally just happens to have the two to three exact ones in the string. Also, some students start getting the two-to-three keywords to match the tags because they "cheat" and find out the tagging instructions from the seated person acting as the database. Overall, most students experience initial rejection and frustration and either give up or start doing something different in order to get a thumbs up. I usually allow the simulation to run for about eight to ten minutes, and then the two partners switch so that each can experience becoming the database and the researcher.

Attending to Online Databases as “Places”: Unpacking the Simulation

At the conclusion of the simulation, although I use the language of “seated” versus “standing person,” most students understand that the seated students are meant to represent the databases and the standing people are researchers. However, since this activity is only a *simulation*, students are often struck by the other ways in which the activity they just experienced is both like and unlike “real-life” online database research.

First, just as in “real” database research, emotions are present and should not be discounted. In Micciche’s language, the emotions of the simulation help to agitate and disturb. They disrupt and cause students to attend to the simulation and could also help students better shift attention to the choices they are making in selecting databases in “real” life when they experience those emotions again. People really do feel sad and frustrated when they don’t find what they are looking for, and every database has different ways that it tags information. While databases are not typically out to trick us, differences could stem from the fact that some articles are tagged by authors who supply keywords, some articles are assigned tags on the level of the editor or journal preferences, or some articles could have been assigned tags “after the fact” of publication when an older article is digitized or identified through a database’s set of conventions. Authors may choose tags based on the conversations in which they want to participate. Also, databases could use different terms based on disciplinary considerations. Additionally, these differences in terms really do matter. For instance, “body snatching *films* of the 1950s” as a keyword search returns a different number of search results in nearly every database than “body snatching *movies* of the 1950s,” and we consider *movies* and *films* to be nearly interchangeable synonyms in popular speech. While no database uses secret tagging instructions like rhyming or using words only a third-grader would know, if we do not understand the tagging system or we cannot find what we want, it is just as frustrating as receiving a thumbs down in the simulation. However, after participating in the simulation, students may begin to draw on affect as productive information causing them to attend to database selection or keyword construction. After the simulation, students who feel joy at finding relevant articles may attend to the database they visited as particularly relevant for that topic. If they feel frustrated, they may question whether the database (and not just the search terms) is the appropriate place to find information for that topic.

In addition to drawing on emotions more productively to attend to database selection as visiting particular research places, students also need to realize that in order to find particular articles, our keywords need to match the tags attached to an article in the database as closely as possible. While it isn’t the case that an ineffective set of keywords returns a big graphic “thumbs down” in a list of search results as in the classroom simulation, it might be kinder if that were the case. At times a big “thumbs down” could be far more helpful than hundreds, thousands, or millions of results that do not address our research questions accurately. “Real” research is trickier because the researcher must be able to evaluate search results and know if they are helpful. Also, since we are not usually looking for only one particular article, whose title is already known to us, even more is left up to the researcher’s interpretation of whether the search was effective or not.

Furthermore, just as in real research, when we approach a new database, we don't know anything about that database at first. This comes back to Sidler's concept of getting to know the neighborhoods online but also, in a more corporeal sense, getting to know other people. We do not know a new database's "secrets," conventions, or the ways that it tags information. In the simulation I stipulated that researchers could not search for articles from their partners (because they would know the tags and the secret instructions), and they could also not "cheat" and ask the seated person to share the team's secret tagging instructions. However, in real database research, students can read about helpful hints, find the database's posted search tips, and find out information on idiosyncratic tagging choices (such as whether *films* or *movies* helps to narrow a set of results.) Researchers frequently return to the databases they know, so if students learn multiple databases now, this can serve them in a lifelong process of inquiry and can potentially transfer to different research projects and courses. However, I do not think this process of learning, mapping, and understanding databases as *places* can happen as effectively without the simulation. (I will return to this idea again about mapping below.)

A final point: the simulation helps to clarify the idea that databases all "hold" multiple texts, but it does *not* address that these holdings differ. Unlike our embodied databases that "held" the same eight articles, students could now think of going up to each seated person in the room and potentially having access to different sets of information. While some databases' access to articles may overlap, just as one classmate differs from another, each database allows access to different content and information. This last point—about databases as diverse "places" and not just nebulous containers—emphasizes that choosing an online database is an important rhetorical choice made during the research process. If students don't visit the real places of different databases, they could miss out on valuable information. (It would be like trying to fill a prescription at the zoo.) Furthermore, this point is even more concrete to students having had the recent memory of the simulation where they were literally walking up to different classmates. Additionally, the example of the student who just wanted to stand in the middle of the room and shout out search terms to everyone can clearly illustrate the difference between narrow, disciplinary databases versus interdisciplinary or cross-disciplinary databases that *could* allow him, in essence, "to shout across" multiple conversations with his keywords.

While no single class intervention is going to completely demystify the experience of online database distinctions, this simulation can serve as a beginning. The next step is to have students then return to the real places of our different online databases and engage in a variety of mapping activities to continue to shift their attention AT, in Lanham's sense, the different online databases and continue to draw productively on emotion and somatic awareness in understanding databases as places.

Moving and Mapping Beyond the Simulation

Through this simulation as an intervention, students have effectively had an experience that helps to shift their attention to databases as places—as discrete, learnable, and with differences that matter. The simulation prompts this new attention to databases

as places by working with affect and somatic awareness as important sites of learning. While this activity contains a firm sense of “play” and even fun, many students are also frustrated as well. The affective aspect of the research process is both memorable in terms of the simulation, but also helpful in reminding students that these emotional responses to research are okay and appropriate and could serve as important information. Students need to be reminded that this frustration and feelings of “not getting anywhere” are actually a part of the research process that could indicate a need to visit a different research place. No student has to feel like an inherently “bad” researcher, because the often-neglected step in acquiring knowledge about a number of databases can help in negotiating different, future research projects. Furthermore, those students who were “cheating” during the simulation can help underscore the notion of research as a creative rather than rote process and become great role models for learning to be more adaptive in trying a number of different approaches to find information.

In addition to emotion, the embodied and kinesthetic aspects of the simulation serve not only to infuse a sense of “play” into discussions of online database selection but also to connect, seriously and experientially, the concept of databases as discrete places to our even more intuitive sense of bodies and different people. There is admittedly a certain play or performativity in “becoming” the database and moving about the room and talking to friends versus receiving a lecture or demonstration of online database selection. However, the aspects of embodiment and bodily movement are also important to the simulation. Just as all databases are different, the faces, bodies, and embodiment of peers and friends in a classroom subtly emphasize this point. (“Who did you try to get article #5 from? John?” “No, Robert.”) It is thrilling to see this transfer to discussions of where an article was retrieved—for example, “PsychInfo or Academic Search Premier.” The act of moving from database to database is not purely incidental either. By moving from seated person to seated person, database to database, students are taught experientially and kinesthetically that sometimes when they are not being successful at one database, at one place, it is essential to *leave* and try again with another database. In a bodily way, this activity makes the research process *feel* more dynamic through a sense of movement and recursive activity.

From this simulation and discussion, it is then important to return to Sibley’s suggestion of mapping. Prior to the simulation, students lacked a concept of databases as places, connected to emotion and movement. However, afterward, students may be asked to directly apply their new notions of databases as places to our real online databases. Rather than applying experiences mapping a physical space to mapping an online space, students now return to our online databases with a concept of them as *places*, grounded in experiences with movement and emotion. In class students are then asked to think about their research topic and devote time to researching at least four to five databases as places they might *visit* in order to gain sources on that topic. Students spend time reading descriptions of databases and making notes about what genres of sources can be found in different databases, the scope of a given database, and whether a database is specific to a certain discipline. From there, I have asked students to then create a visual-verbal mapping of the databases they researched. (See Figure 1 for a mock-up of such mapping). In essence, they are creating a neighborhood or community of overlap-

ping or contiguous databases—places to which they may *choose to visit* to gather sources about their research topic.

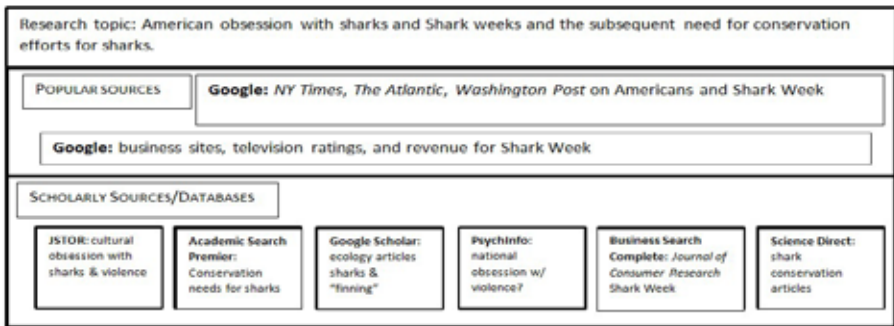


Figure 1. Visual-Verbal Mapping of a Research Plan

Through the simulation and mapping activities, I hope to have occasioned a shift in Lanham's bi-stable oscillation for online database selection. My students now must shift their gaze when they are interested in only looking THROUGH databases, transparently, as one more stumbling block to their research process, and instead focus their attention AT databases, their differences, and how different databases make different information available. Through the notion of databases as places, students are aware that they should move between many databases and think of them as separate, knowable entities. In this way, students can waste less time being frustrated, giving up, and "searching and stopping," and spend more time moving from place to place, being adaptive, and maybe even finding joy and delight in the process of research. However, in the same breath, that process of looking AT is hard and in some ways just as difficult as the frustration we feel when we are in the midst of research that doesn't seem to be going *anywhere*. In those cases, though, now students will hopefully have the possibility of changing *directions* and of at least questioning or considering *going* to another "place."

As a final note, Hirsu has shown that the field of composition and rhetoric has taken largely an instrumental literacy approach to searching, writing tags, and using search engines. Search engines are not the same as databases. Library databases store data and require special access. Search engines are available on the "open web" and require user input. Hirsu provides a specific example in the case of the Romanian online campaign. If a student googled the phrase "Romanians are smart," this poorly chosen key phrase would substantively change *future* search results and affect the autofill suggestions that search engines such as Google use. Therefore, search writing, search engines, and database use are also not without associated considerations of value, privilege, and exclusion. While I have focused here on the instrumental approach of having students make choices about the places they visit, another aspect of this conversation that deserves consideration is a larger debate on open-source publishing, access, infrastructure, and privilege, where some students are able to move to many places, and others are not. So while my students may construct new, empowering knowledge in shifting their attention to mapping databases—in the cultural and geographical sense—as neighborhoods or com-

munities for their research topics, we should still beware of Joseph Harris's critique of "community" with its associations of like-minded warmth *as limiting* (21).

Thus, it may also be important as I ask students to map out databases as "neighborhoods" of knowledge, as particular places, to attend to my own assumptions about the concepts of database research, mobility, and place. Are these concepts also *structures of exclusion*? As students map out database "neighborhoods" that they would identify as safe, friendly places to visit in their research, might it be equally important for me—and for all of us who teach online research—to ask them to map the places where they do not feel welcome to visit and to consider the voices they see as being left out?



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Appendix A – Two Sample Worksheets for Tagging²

Instructions: For each article come up with at least one tag of 2-3 words. Remember tags are like search terms. **Special instructions:** You must tag your articles using **only two syllable words**.

1. “Viral Dynamics in Human Immunodeficiency Virus Type 1 Infection”

Tag #1 _____

Tag #2 _____

2. “The Pleasures of Difficulty: Teaching Reader Response Theory”

Tag #1 _____

Tag #2 _____

3. “Panacea or Panopticon?: The Hidden Power in Computer-Mediated Communication”

Tag #1 _____

Tag #2 _____

4. “Someday My Prince Will Come: Female Acculturation through the Fairy Tale”

Tag #1 _____

Tag #2 _____

5. “Mortgage Prepayment and Default Decisions: A Poisson Regression Approach”

Tag #1 _____

Tag #2 _____

6. “Shrinking in a Growing Economy? The Mystery of Physical Stature during the Industrial Revolution”

Tag #1 _____

Tag #2 _____

2. Note: Other secret instructions could include the following: “only nouns, only verbs, only words NOT in the title, only alliterations, only words a third-grader knows, only words that rhyme, etc.

7. "History after Disney: The Significance of 'Imagineered' Historical Places"

Tag #1 _____

Tag #2 _____

8. "Effects of Body Position on Slide Boarding Performance by Cross-Country Skiers"

Tag #1 _____

Tag #2 _____

Instructions: For each article come up with at least one tag of 2-3 words. Remember tags are like search terms. **Special instructions:** You must tag your articles using **only slang and/or informal language**.

1. "Viral Dynamics in Human Immunodeficiency Virus Type 1 Infection"

Tag #1 _____

Tag #2 _____

2. "The Pleasures of Difficulty: Teaching Reader Response Theory"

Tag #1 _____

Tag #2 _____

3. "Panacea or Panopticon?: The Hidden Power in Computer-Mediated Communication"

Tag #1 _____

Tag #2 _____

4. "Someday My Prince Will Come: Female acculturation through the Fairy Tale"

Tag #1 _____

Tag #2 _____

5. "Mortgage Prepayment and Default Decisions: A Poisson Regression Approach"

Tag #1 _____

Tag #2 _____

6. "Shrinking in a Growing Economy? The Mystery of Physical Stature during the Industrial Revolution"

Tag #1 _____

Tag #2 _____

7. "History after Disney: The Significance of 'Imagineered' Historical Places"

Tag #1 _____

Tag #2 _____

8. "Effects of Body Position on Slide Boarding Performance by Cross-Country Skiers"

Tag #1 _____

Tag #2 _____

Appendix B – Searching Worksheet with Instructions

Searching Checklist

Instructions: Decide which partner will sit first and who will search first. For the first 10 minutes the person searching will go to other groups' seated partners and try using search terms to try to "get" the articles in order and check them off the list. Once a seated person gives the thumbs up, the searcher will move on to the next article. The seated person may NOT share the secret instructions. The searcher should follow this protocol:

- 1) Approach the seated person.
- 2) Identify which # article you are searching
- 3) Say a string of search terms (2-3 words or more)
- 4) Offer another string of search terms
- 5) Give a third set of search terms
- 6) After three guesses, if you have not gotten a thumbs up from the seated person, move on to a different seated person and try to "get" the article. Seated people can only give a thumbs up if you match their tag EXACTLY.
- 7) Once you "get" the article, cross it off your list.

Topics

- “Viral Dynamics in Human Immunodeficiency Virus Type 1 Infection”
- “The Pleasures of Difficulty: Teaching Reader Response Theory”
- “Panacea or Panopticon?: The Hidden Power in Computer-Mediated Communication”
- “Someday My Prince Will Come: Female Acculturation through the Fairy Tale”
- “Mortgage Prepayment and Default Decisions: A Poisson Regression Approach”
- “Shrinking in a Growing Economy? The Mystery of Physical Stature during the Industrial Revolution”
- “History after Disney: The Significance of ‘Imagineered’ Historical Places”
- “Effects of Body Position on Slide Boarding Performance by Cross-Country Skiers”