

Border Crossings: Strengthening Collaboration for Meaningful Student Inquiry

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When I was preparing for this conference, trying to think about what were the most important issues facing us today when teaching students research skills, I found myself thinking about borders and about making border crossings. There are three kinds of border crossings in particular that I'm going to focus on this morning. First, because we have this rare and wonderful opportunity to gather both librarians and faculty in the disciplines together for conversation, I am thinking about the boundaries between disciplines and the cultural differences between disciplines and how we can surmount them. Here in this room full of librarians and faculty from different fields, we have a gathering of people who are used to working together and have had the experience of working in a border territory. It strikes me that if we are to successfully work together to make research processes clearer to students we need to be more or less bilingual and sensitive to the cultural differences that we bring to the classroom as we work together. We need to understand one another's assumptions and values and means of expression, and where these are different we need to find ways to communicate while valuing those differences. And we need to be able to make our cultures evident to our students who, after all, have to cross those borders continually as they pursue a liberal arts education. We want students to recognize and value the distinctiveness of our cultures, but we need to make them good at travel, people who can travel light and pick up the local customs, and who also can value the trip, not just focus on the final destination.

A second sort of border that is on everyone's mind these days is the border between print and electronic technologies. This electronic frontier occupies a lot of our attention and energy, and it has in many ways complicated our lives as well as enriched them. Teaching research skills is more difficult now as our range of research tools has grown and as the frontier spirit pervading this revolution has made for a multiplicity of interfaces and competing and overlapping product lines that sport a variety of assumptions about how a user might want to access data. Somehow, because technology has touched our lives in practically every aspect and because it seems to require so much constant retooling on our part, it feels as if we are at the threshold of a profoundly different world. Oh brave new world, indeed-- and to continue borrowing from *The Tempest* -- our profit on't is that we know how to curse.

But to my mind this border is something of a distraction from the real issues at hand. We conceive this state we are in as a frontier because it is so visible, so obvious, so difficult to cross, it seems a border fortified with barbed wire and guard towers and some really nasty customs agents, and yet so much of what is critical knowledge for research is independent of technology. The higher order research skills that our students need to learn have to do with interpreting a task, determining appropriate evidence, evaluating arguments, articulating a position while doing justice to alternative viewpoints, and so on. These have everything to do with reading and composing texts and thinking ones way through a variety of choices; they have little to do with technology. They are skills that need to be put to use whether sitting at a computer or paging through a book, and they need to be put to use in a culture that is a hybrid of technologies.

We are looking at this wrong. I think at times we are all inclined to view ourselves as forward thinking techies or as people of the book. We may consider ourselves one or the other at different hours of the very same day. We are neither of those things, and both. We are not sojourners in one or the other culture, we are not changing our membership in a culture from one to the other, we are in a state of what in a postcolonial studies context might be termed *métissage*, that is, we are people of a distinct, hybrid culture. (Unfortunately there is no

word in the English language for this concept. Mixed blood, mixed race, bi- or multicultural are all inadequate and vaguely condemnatory; there is nothing negative inherent in the concept of *métissage* and, in fact, the broader term recommended by the Library of Congress Subject Headings is the downright ugly word “miscegenation.” The English language obviously has a bit of catching up to do.) What I’m trying to get at is that we have a mixed heritage, we are the product of two cultures in collision that in their hybrid state have yielded a singular culture that is neither one nor the other nor an uncomfortable combination. Although the fluidity of this culture and the constancy of change makes us think we are crossing a frontier, on our way to a new and different place as yet unknown, losing one culture as we are dominated by the other, in fact we are going to be in this hybrid place for a long, long time. We will dwell in this borderland and should value our state of *métissage* which, like all *métis* cultures, has a richness of its own.

The third kind of border crossing and, to my mind, the one that really matters, has to do with the changes that students experience as they move from the position of being a passive receiver of knowledge, outside the factory gates where it is made, to seeing themselves as producers of knowledge, as people who are competent to join the conversation, as knowers rather than transcribers or mimics. Some cognitive scientists have described this as a developmental function, and have even suggested that students at one age are simply incapable, because they are developmentally unready, to cross that border. I’m not a cognitive scientist, but I think they are wrong. My bias is toward viewing this as a cultural phenomenon, that these are socially defined borders that that students are quite capable of crossing with the right help.

So, these are the three kinds of borders or borderlands that I’ve been thinking about, and all of these have something to do with what we will do now to help students become confident and competent inquirers. I’m now going to lay out some assumptions that we articulated recently at our library, trying to sort out what we believe, because it is on the basis of these beliefs that we find ourselves proceeding.

First, and perhaps most basically, we believe that authentic research experiences are valuable for undergraduates. That may seem obvious, but it is not always accepted, or if accepted certainly not always considered in the construction of a curriculum. We have a tendency to make research a hallmark experience of graduate school, the ultimate hazing for the would-be academic. There, research is consciously an initiation into the discipline and a means of inculcating the values and norms of the discipline. At the undergraduate level research is something else, as indeed it should be. But what exactly should undergraduate research look like? Often, the research paper at the undergraduate level is a nod toward experiencing the discipline, but tends to be little more than synthesis and transcription, as well as a technical exercise in using documentation styles. There is very little room for the students voice in many undergraduate papers. In fact, mimicry is more often what is called for, along with careful extinction of the self. While I acknowledge that disciplines have their own discourse conventions, and students should be encouraged to think and speak in language appropriate to the discipline if they are to have an authentic research experience, I think we need to be very clear about what we intend when we create a research experience for students. It is not enough to assign a research paper and assume we know what we mean by that. Perhaps as we explore what students need and how we can provide for those needs we can begin to unpack what that word means.

A second assumption we have made is that research is situated in disciplines and must be addressed in terms of specific research traditions. This is not to say that all research experiences need to be focused on learning and practicing the conventions of a discipline. It merely acknowledges that there is no neutral ground where a kind of free-floating inquiry resides. All inquiry is based out of assumptions held by a social group of some sort, and part of the challenge of defining research for undergraduates is in making those assumptions

clear. On the other hand, the undergraduate is in the rare position of holding visas to cross borders constantly, and the undergraduate curriculum typically invites the learner to not just sample these disparate cultures, but to seek connections among them and to relate them to their personal experience. All I'm trying to establish by claiming that research is situated in the disciplines is that one cannot do research that doesn't somehow entail values derived from somewhere. There are always embedded – perhaps invisible – notions of what questions are worth asking, what language is appropriate for asking them, what evidence is persuasive, in what manner an argument should proceed. In order to teach research skills we should articulate those assumptions and not assume that they are somehow both self-evident and universal.

Our third assumption is that research is a complex, non-linear and recursive process. We've all done research. We all know how messy it is. We all know that messiness is not only inevitable, it is the primal ooze out of which ideas emerge. We sometimes forget to make that sense of mud-pie ecstasy clear to students. Because they are novices, outsiders poised to become insiders but as yet uncertain of what that means and how it will feel, they are naturally anxious, and messiness doesn't feel right to them, they tend to view it at best as inefficiency. If it is messy, they must be doing it wrong. If the answer doesn't come quickly to hand they'd better change topics. In an effort to allay their fear students are often given simplified step-by-step instructions that run, perhaps, like this: choose a topic; go to the library (or to the web) and find information on your topic; read and take notes; outline your ideas; write the paper using appropriate documentation, avoiding plagiarism and, of course, stating a thesis and arriving at a conclusion. Given those instructions it isn't surprising that so many undergraduate efforts look like paint-by-numbers kits. If, in fact, research is complex we should help students understand and master that complexity.

Our fourth assumption is that research skills, like writing skills, are developmental. They can't be mastered in one session, or in one course, or even in a given year. These skills need to be practiced and built upon through practice, and a thoughtful curriculum will include numerous opportunities for that practice and multiple support activities to offer feedback and guidance. What a student needs to know to prepare a five-minute speech in a first-year public speaking class is entirely different than what she needs to know to write a senior thesis on political theory or what she needs to know to design a physics experiment. And the differences are not just in terms of what information resources are available for different subjects, but also in terms of what arguments and evidence and strategies for inquiry are likely to pay off for a given type of task. I bring up writing skills because the developmental nature of writing skills is somewhat better known in academia; we can learn much from what we have already learned about how and how not to teach writing.

Finally, our fifth assumption is that the skills necessary for research are basically the same, whether using print or electronic resources. For many years we have insisted on the need to teach concepts for research skills, not tools. But somehow, with the advent of new electronic gadgets it has grown harder and harder to avoid focusing too much attention on tools. We really need to get away from emphasizing which buttons to push and think through how to conceptualize a research task in a world where the information needed may come from a printed page or a computer. In fact, a text is a text, no matter what box it comes in. Now, more than ever before, the skills needed for understanding where texts come from, who produces them, and for what purposes have to be clarified if students are going to be able to pursue their own lines of inquiry in the future.

So, given these basic assumptions about research, what do we know about our students and their perceptions of research? Well, we know that libraries make them nervous. Years ago Constance Mellon put into words something we already knew: students suffer from library anxiety. Their fears can color their initial attempts to do research and often make it difficult for them to grasp things that, to the initiated, seem perfectly obvious.

Personally, I suffer from doctors office anxiety. I don't like going to the doctor because its scary and I forget to ask the right questions and I don't always hear the answers and I drop my prescriptions on the floor on the way out in my haste to escape. Most of us like libraries. We've always felt at home in libraries. Its hard to imagine they could be threatening. Most students, at least at first, are very intimidated by them. When you next see a student tentatively approach the library, convinced that she is expected to know her way around something that is baffling and complicated and no fun at all, think about some place that scares the dickins out of you to see how they're feeling.

Another thing we know about students is that they are both hopeless at time management (from our perspective) and very anxious to use their time productively (as they see it). According to Barbara Valentine, who conducted focus group interviews under the clever guise of being a sociologist, there is a utilitarian component to undergraduate research behavior. In the final analysis she found undergraduates tended to look or the easiest, least painful way to complete a research project ... their desire for knowledge seemed to have little influence on how the process was negotiated (302). She also found that students geared their research responses to perceived rewards – that is, they reported that giving the teacher what she wanted was the bottom line, not discovering and exploring ideas, and they said that asking librarians for help was not only unlikely to be a strategy of choice, it was a public admission of ignorance. Finally, she found that their utilitarianism extended to preferring the known to the unknown. They would use sources they had used before rather than locating ones that were perhaps more appropriate to a task, and they would ask their friends for help before asking a teacher or librarian. All rather depressing news, but certainly informative.

Another thing we know about students, but sometimes forget, is that they are not experts. They are novices to research and, as such, have to proceed differently than experts. A long time ago Stephen Stoa pointed out that the methods that scholars use to find information differ tremendously from the methods that librarians use, and concludes that library skills are not the same things as research skills and that librarians should not only be aware of that, they shouldn't claim to teach research skills, that those skills are the purview of scholars in the disciplines. I find his argument fascinating, on target, and his conclusions ultimately wrong. That is, he analyzes the variance in strategies quite correctly, and is correct that faculty in the disciplines play a key role in teaching research methods, but is wrong in suggesting that librarians should stick to what they know and focus on library skills.

In fact, I would argue both approaches – the scholar-expert mode and the librarian-expert mode – are not entirely appropriate for undergraduates. They both call on a number of assumptions about what constitute good sources, what publications are reliable, and so on. The novice doing research in a field that is quite new to him can, I think, engage in authentic inquiry, but has to do so using a different process because he doesn't have that internalized knowledge base to call on. Think of a field that is quite foreign to you – for me it might be biochemistry or economics – and then imagine having to write a paper on some topic in that field. Its really asking a lot.

We need to find ways to help them get through a research process that isn't based on an expert mode. The process they have to go through is radically different from the start. Learning enough about a field to even know what topics are available for study is a task in itself, something with which they need quite a bit of help. The scholar-expert mode assumes enough familiarity with the field and its frontiers that choosing a topic is an ongoing background process. Scholars are always, perhaps even unconsciously, teasing away at the known world looking for unanswered questions worth exploring. The librarian-expert approach tends to inquire as to what tool and strategy will provide a handle on the problem and that often leads to the strategy of choosing a topic that is

cut and dried and laid out for view in an encyclopedia article. Unfortunately, topics that are complex or binary or emerging – really good topics, in other words – don't tend to show up in encyclopedias. By recommending that strategy we could be unconsciously telling students that research is an activity defined by reporting on what is already authoritatively known, and I think that would be a big mistake.

How can we help novices productively negotiate that part of research when they don't know enough to have good topics in mind and want to do something that isn't known enough to be in an encyclopedia? We need to not only build in support for the focus-setting stage, in terms of literature-scanning strategies, brainstorming techniques, guidance from subject specialists, and the like, we need to teach them that this is a crucial part of research and that they aren't wasting time when they are exploring at this stage. Here the time-management thing and the anxiety thing come together: they get spooked when it takes time and they feel as if they aren't in control, that they don't get the library. We need to explain not only how to do it, but help them understand those feelings of ambiguity are all right. When I interviewed students about how they did research – and these were students who did research projects that their teachers felt came out well – I asked them to draw a timeline of their project and a huge part of the timeline was occupied with finding a focus. Most of them had to come up with some method of scanning what was going on in the field, getting a sense for where the action was, getting a notion of how some general idea they were playing with was under discussion. Many of them got useful feedback from their teachers as they played with these ideas, and once they began to form a focus would often get references to key texts that would prove helpful, or authors to hook up with. There is a need for a feedback loop in this stage, and it probably needs to come most productively from the course instructor, the scholar-expert.

One thing that several students found crucial in going from the exploratory stage to establishing a focus was the act of verbalizing their focus. In some cases they had to simply write down what they had in mind for a topic and run it by their teacher; in others they wrote a more formal research proposal: here's what I want to do, here's why its worth doing, here are my plans for pursuing this question. One student said putting it in words definitely formalizes it: "it's almost like you have to practice using the words." Another said she kept a copy of her written topic with her afterward to keep a handle on her project, to avoid going off on tangents that were interesting but not necessarily productive.

Once they had a focus, students tended to use a binary system of making use of library research tools and tapping into the information encoded in footnotes and references. Often, I think, the librarian-expert mode ignores the value of the citation network and we neglect to point out both the value of those references and how to use them productively. As Stephen Stoen puts it, this is essentially the primary literature indexing itself, and doing so in a way that carries far more information than a reference in a database. This is not obvious to students. Even though they patiently go through the hoops of documenting sources, following the arcane rules, they often don't really get it. Its a peculiar and annoying ritual, at best a means of acknowledging a debt, but not a device for substantiating a claim by calling on expert witnesses or for bringing the readers attention to related and significant texts. I think both librarians and course instructors could help students out a lot by helping them understand the way those pesky footnotes actually function as a network.

Another aspect of teaching novices an appropriate research process has to do with reading and writing. Students have generally been taught a fairly linear approach to expository writing. Though the process approach has been *de riguer* in schools for a long time, it hasn't always been applied to academic writing. And if you look at most college-level writing handbooks, even the good ones, there is much attention paid to note-taking and summarizing, usually in the chapter after using the library and the Internet for research and the implication is

that all of the information is gathered before the writing begins. In fact, it's important for students to start reading early on, and to do a fair amount of writing early on, because that articulation of ideas is so important. Both reading and writing will inform students of where to look next. The topic, even once articulated, continues to be refined and shaped by what they are learning because when they start out they are usually very ignorant. It may be that, by reading, they will discover that their topic is complicated in ways they didn't dream of, and they want to follow a branching path they hadn't even seen. Or they may even discover that they were using the wrong terms to query the databases because they're just learning a new language. At the very least, they need to read enough to make good use of the citation network, to start to recognize some names, pick out some schools of thought, see some patterns that don't show in a database search. Writing, too, exposes ideas in a way that can guide the student back to the library if they build it in early enough.

So what can we do to make research a meaningful activity for novice researchers? I have some suggestions. No doubt you all can come up with more.

First, I think we must recognize and respect the difficulties undergraduates have trying to pursue inquiry in territory that is so very unfamiliar to them. I think we need to make the effort not to dismiss their mistakes as products of laziness or stupidity. There is a logic to the errors students make, and if we can figure it out we will be that much closer to explaining things in terms that will make sense to them.

Second, I think we should teach research as a process and build in support for the students that gives appropriate nudges and feedback throughout the process. For example, requiring some sort of written research proposal seems to assist students both in time management and in refining a topic into a focused question. There are things we can do to make the process easier, less scary, and more productive, and we can avoid the problem of reading papers at the end of term that are hopelessly off track.

Third, librarians and faculty in the disciplines need to collaborate better. We will have to if we were going to combine some of the knowledge of our two expert modes and derive a process that works for novices that braids together tool use, using citation clues, reading, writing, and becoming fluent in a discourse community. We bring to the task different views of students, and we could pool that knowledge productively. We also have to respect each other's expert modes of research. Librarians need to acknowledge that faculty are knowledgeable about research in their discipline. They may not know the details of how a given database works, they may not even know it's available on the campus network, but somehow they manage to publish those books and articles, somehow they pull it off. On the other side, faculty in the disciplines need to realize that librarians are more than tool specialists, that our knowledge goes beyond library skills and indeed does encompass a wider concept of what research is, and let us work more productively than with a fifty-minute window of opportunity. Let's think in terms of common ground, not turf.

Fourth, as we help students become citizens of a *métis* information culture, one that is a hybrid of print and electronic cultures, let's keep our focus on process rather than tools. Give them the wider understanding of how to think through a research need and let them apply it to whichever technological solution seems most appropriate. Provide the information and the means for students to figure out the details on their own. If nothing else, we know that teaching a particular tool is fruitless because the interface is going to change next week. And being able to figure out an interface on their own is something students will have to do in future. The details, too, are a red herring. I found, speaking with students that did really wonderful research projects, that they often weren't particularly good at using our online catalog. They forgot how to limit searches, they got confused about which command did what, but they still found what they needed because they figured out what to look for. How to look for it turned out to be no big deal. The big issues really are independent of whether you're looking for

information in print or through a computer. They have to do with reading and writing and thinking critically, not with which button to push.

Finally, I want to return to that border crossing metaphor. If we think research is important as a means of knowing, and if we are to help students succeed at research, we need to intentionally embed research activities in courses and programs as a pedagogical tool. I believe that doing research, engaging in genuine inquiry, invites students to cross that border from being a receiver of knowledge to being an active, engaged participant in knowledge creation. It is active learning at its best and most sophisticated. But it does mean seriously looking at what we do and spending more time supporting students as they negotiate a process that is very complex and difficult. We need to understand better what students do and why, we need to work together more closely to provide the right help to students as they learn, and we need to give it enough time – time spent in the library and with the experts modeling how to do it, engaging them in partnership. The whole point of a liberal arts college education, it seems to me, is to help people across this border, making them skilled and confident in their ability to engage ideas, and though it isn't an easy border to cross, research as a meaningful and carefully designed activity at least provides a map.

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I also drew on the writings of Edouard Glissant and Franoise Lionnet for the concept of *métissage*, Mina Shaunnese on respecting student logic, Carol Kulthaus writings on the affective side of the research process, and my own study on undergraduate research processes published in *Journal of Academic Librarianship* 18 (July 1992): 163-169.