Students as Researchers: The Faculty Role

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Any time I discuss student research with faculty members, professorial eyes start to roll. Our students are hung up on websites, they seem to love Google and Wikipedia more than libraries, and the level of writing and research in what they do produce is abysmal. They don't seem to be motivated to do research well and probably do most of their work on each project in the wee small hours the night before it is due.

For some faculty, this is a sad reality but not a terribly big deal. Research projects, after all, are only one part of our assessment of learning. It's not as if we can teach students to do better research, let alone improve their motivation anyway. Students hate research projects, and that's just the way it is. If they improve, it is only because they put their energy into practicing their skills.

Thus a lot of faculty members may be dismayed at poor student research skills but not see much of a problem at all. They argue that today's students are absolutely flush with technology and can run rings around most adults when it comes to searching Google and filtering through tons of data. "If students have a problem," they declare, "it's that we've made our academic databases too challenging, when they should be as simple as Google. Yet, give our students a bit of time and they can master any research task we throw at them. Have no fear. Students still graduate and go on into vital careers and ministries. They must have picked up on their own the information abilities they needed."

Why it Matters

I'd like to take a different tack and argue that student ability to handle information well and to do research matters a great deal. Let me share some harsh realities of the information age:

1. Information has become a cheap commodity. Let me unpack this a bit. For many centuries, higher education has operated within an information scarcity model. The population's access was limited because books were expensive and experts in knowledge were few. Those students who attended colleges and universities did so because that was where the knowledge was. As they acquired knowledge from their professors and libraries, they became well-rounded individuals able to enter the workforce and do good things.

Today's information world has killed off the scarcity of knowledge. Anything I need to know I can find on the Internet or some fairly accessible database. None of it is particularly expensive and, if I need an expert to explain something, I can find one on YouTube. You may argue that this is a dumbing down of knowledge, but, for many people it is sufficient. Now, the main

reason why a student needs an institution or professors is to get credentials. Knowledge dissemination is no longer valuable, and professors are not especially valued for the information they promulgate in their lectures.

2. In an information age, the real value is expertise with knowledge. Merely knowing things is becoming commonplace. What I don't know I can look up with ease. But the ability that librarians are seeing as the most lacking of all is the ability most needed in an information age – the ability to handle information well to solve problems and advance knowledge. If the content is cheap and easily available, it needs to come with the process skills needed to use that content effectively. This is the area in which our students, and higher education in general, are stumbling badly. To say that our students do bad research but there is little we can do to solve the problem is to say that we are not addressing a significant and crucial gap in our students' education.

3. Disciplines are not static. They grow and change over time through research. As I wrote elsewhere:

> Academia is all about a profound discontent, about a quest to discover more, about a burning desire to solve society's problems and make a better world. Research is at the heart of this academic yearning, and our students need to be able to do it well, way beyond the uneven vagaries of a Google search (Badke, 2013*,* 67).

4. In the world of Christian higher education, our passion for information literacy arises from the fact that we are a "faith of the Word." We believe that the Word came from God to give us understanding of our Maker's claims upon us. As such, the ability to discern the Word in a world of many words is essential to navigating a path of truth. So we, as much as, or even more than, other information professionals need to be fostering the abilities of our students in the area of handling information with skill.

How Bad is the Current Problem?

But there is ample social scientific evidence as well that our students are doing terribly at the tasks of information handling. Let me cite two recent streams of research about students: The ERIAL project and Project Information Literacy. The ERIAL Project did detailed surveys of 161 students in higher education, 75 teaching faculty, and 48 librarians in the Chicago area.

Among other things, the ERIAL project found:

- "Critical thinking skills are generally lacking.
- All search boxes are expected to work like Google and there is tremendous over reliance on Google.

- Many students spend much time and put great effort into their search for sources and information, but simply don't know how to do it effectively
- When students learned a tool or strategy that worked once for them, they continued to use that tool or strategy for future research endeavors, even when the tool/strategy was ineffective and inappropriate. The problem of once getting a hammer, suddenly everything becomes a nail…
- When students hit an obstacle, it means the library does not have the information/material and it is time to pick a new topic…
- Students return to the familiar even when not appropriate" (Green, 2013)

A major conclusion of the ERIAL Project: "Almost without exception, students exhibited a lack of understanding of search logic, how to build a search to narrow/expand results, how to use subject headings, and how various search engines (including Google) organize and display results." (Asher, Duke & Green, 2010)

Project Information Literacy (2013) is a longstanding program to assess young adults in their information handling experiences and abilities. Alison Head and Michael Eisenberg (2009), who run Project Information Literacy, point out, based on data from thousands of university students:

> In general, students reported little information-seeking solace in the age of the Internet and digital information. Frustrations were exacerbated, not resolved by their lack of familiarity with a rapidly expanding and increasingly complex digital information landscape in which ascertaining the credibility of sources was particularly problematic (p. 9).

Study after study finds the same thing that most of us are seeing: Students doing research are lost. They don't understand the information world in which they are supposed to function. They don't understand what the professor wants from them. Indeed, they don't understand the point of research itself. They can find information but not the best or most specific information. They say they evaluate their resources but they don't know the best criteria to use in doing so.

Professors, in turn, remain frustrated with the low levels they see in student research. The result has been that some professors are dumbing down their requirements, asking for fewer items in bibliographies and generally assuming that what they are getting in student papers is the new normal. The one thing I seldom find in professors, despite their frustration, is any belief that students can be trained to become excellent researchers.

Professors and the Challenges of Student Research

Studies of student research are revealing a profound gap between what professors think students should know and what they actually do know about doing a research project. Part of this is student alienation. Picture yourself as a student walking into your first class on a subject or taking a first online course in something never really previously studied.

You the professor are the expert, the student is not. This immediately creates a barrier even if we don't intend to create one in that the student is the novice and you are the expert; the student is the foreigner and you are the citizen. There is a whole culture to be understand, basic factual information to be assimilated, and a ton of understandings about the nature and workings of information in your field to be acquired.

Let me give you an example of the problem – the typical research assignment: "Write a paper of 2000 words on one of the following topics [or a topic of your choosing that is relevant to this course]. Include a thesis statement, use good critical thinking and include at least 4 books and 3 peer reviewed articles in your bibliography."

Students don't really understand what any of this means. In fact, the most common complaint of students is that they don't much understand their professors' assignments. Head and Eisenberg (2010) found that, though struggles with grasping what a professor wants from an assignment were dominant among student frustrations, few professors offered the specific types of guidance students needed.

Let's break the typical research assignment down a bit:

- *Have a thesis statement* – What's a thesis statement?
- *Use critical thinking* – About what? If I'm gathering information, am I supposed to criticize it somehow?
- *Include at least 7 citations, 3 of which must be scholarly journal articles* - How am I supposed to find 7 citations for my paper? And 3 of them are journal articles? What's the point anyway, when they all say the same thing?

It is possible to fail to recognize that this is alien territory for students who have only a vague idea what research is for beyond assuming that they are required to study up on a topic and report what they found.

In my experience, professors tend to view the challenge of student research ability either as remedial or as an insurmountable problem, and sometimes both. That is, they believe it is possible through brief instruction to get students to overcome some of the barriers to research,

but they have few answers about how it is possible to teach students to become *good* researchers. Their own efforts tend to be more along the lines of, "I showed them what to do. It's really disappointing that they failed to do it." Given enough of this kind of experience, and the average professor comes to believe that there is no ultimate solution to the abysmal level of research done by the student.

The result is that our efforts as librarians to increase the levels of information literacy on campus are met with the following responses by professors:

- "I can give you an hour, no more. Teaching research skills is a worthy task, but there just isn't room for it in the curriculum."
- "Just show them the databases. That seems to be their main problem. Let them figure out the rest on their own. It's their responsibility, after all."
- "My role, as a subject specialist, is to teach my discipline. You are not a subject specialist (and you don't have a Ph.D.), so, while you're a nice person and all, you're a librarian. I can't expect you to solve my problem with student research."

Librarians can do one-shot sessions, even two-shot sessions if we are blessed, but we still see the same challenge – students who are floundering in their research efforts, hating research, and disappointing their professors, some of whom believe students these days are just unmotivated.

Back in 2012 I produced a book challenging faculty to address the crucial need to develop the information and research skills of their students (Badke 2012). I'm also the author of a student textbook on research skills, now in its 5th edition (Badke 2014a). This is not to blow my own horn but to say that I have been looking at the challenges and opportunities for a long time now. I have also taught research courses live and online for close to three decades, as well as working with students directly on their research, both at undergraduate and graduate levels (Badke, 2007, 2008, 2014b). Thus, what I have to say is based on tons of experience and my hope for the future has been formed in the crucible of reality.

Here are some challenges to advancing in development of students who are good researchers. They may not be your challenges, but I thought I'd share them, just in case they are:

1. You may have forgotten how difficult it was to develop your own research abilities. Perhaps there is some selective forgetting of your early blunders and your own poorly researched undergraduate papers. Or maybe you absolutely aced research, being the brilliant people you are. Thus you may struggle to see why their students should have so much trouble with it. The result is that you can come to assume that developing

research skill is more like learning to tie your shoes than learning something complex like a new language. Librarians see the huge gaps in actual student ability and know that the problem is more than something requiring remedial attention.

2. You might be assuming that student skills develop over time simply by doing research. Librarians know that this rarely happens in any significant way and that many students often repeat old patterns again and again. (A variant notion is that students have lots of technological skills, so they are bound to figure it out sometime). As long as students are sent *out* of the classroom to do their research, they will not advance in information literacy, since they are cut off from the sort of instruction that could guide their skill development.

3. You may finding yourself thinking in terms of content, and specifically content within your own discipline, rather than in terms of process and skill development that can be transferable to a wider range of subjects. Librarians tend to emphasize process. This may well be a significant reason why professors give so little time to librarians to help their students with information literacy - there is scarcely enough time to cover course content, which is the primary goal. A librarian's suggestion that the teaching of research processes needs to come alongside the teaching of content means that less content will be taught. If you are focusing on content, such a suggestion is not likely to get much of a hearing.

What Do We Need to Create Competent Student Researchers?

If we were to develop significant information handling and research skills in our students, what would we have to teach and what would they have to learn? Given that we are convinced that this is more than a remedial issue, we are looking at a long-term process of instruction and guided student practice. Here are some elements of what students require to become solid researchers:

First, they need a substantial understanding of the current information landscape. As a test, ask a group of students, "What's the difference between a journal and an article?" About 10% of first and second year undergraduates will know, maybe 25% of senior undergraduates and 40-50% of graduate students. Amazing. Why the low scores on a question that seems so obvious? (A journal is comprised of articles, or a journal is the "container" within which articles are found). To answer, ask yourself, "How often do students today actually see a physical journal?" Their articles are delivered electronically through databases without the journal packaging being made visible except in citations. I find, in fact, that many students speak of journal citations in databases as if they were websites. They lack a conceptual framework to see articles as part of a larger publication program.

Another example – Students are told to use only scholarly literature, but my experience in working with them as a librarian is they couldn't for the life of them determine what was scholarly and what was not. We could say that scholarly literature has footnotes and bibliographies, but they could well respond, "So do Wikipedia articles, but we were told we couldn't use Wikipedia." The information landscape today is highly complicated and students are not grasping it well enough to navigate it intelligently.

As more and more information is appearing without peer review and is being made more and more accessible, students themselves need to become their own gatekeepers, yet they lack the basic skills or even simple criteria to do so. Most of my students initially don't think to check out the author or publisher of information to determine their qualifications for producing the information they have made available. They don't know how the publication came into being and with what level of peer review. Thus, being able to navigate intelligently through the increasingly mixed bag of knowledge in our information age is something that needs to be taught intentionally and well.

Second, students need to understand the purpose of research and have the skills to design it well. If you ask the average undergraduate, or even beginning graduate student why professors assign research papers, the common answer is that professors want their students to do independent study of a particular subject. That is, many students see research as a learning process in which they read up on something and report back their success to the professor by writing a summary of what they have learned. What they end up with is a reading report, not a research paper.

Here, in my own teaching, I make a distinction between data compilation followed by synthesis, which is not really research ("Dear professor, I studied up on this topic and here is what I learned"), and research that enlists information as a tool to solve a problem. Many students lack the ability to formulate a concise problem statement (research question or thesis) that transforms their research into a *problem-solving exercise* with a clear goal. They easily fall back into the compilation model unless they have a lot of guidance.

Third, students need to know how to move beyond Google thinking in information acquisition. It is a revelation to many of them that only a small percentage of the world's knowledge is available to them through a Google search. When they discover our catalogs and databases, however, they generally find them to be clunky and difficult. Thus they treat them like Google – they throw some keywords into the first box they see and take the first few results as the best for their purposes, even if they aren't particularly relevant.

Students need guidance to enable them to appreciate the fact that databases using metadata and faceted searching can actually work better than Google to reveal high quality and highly

relevant results. They need to learn the database features that can expose such results. Google may appear easy, but when it comes to precisely relevant results, academic databases do a much better job. In my graduate seminary research course, I have students do assignments with the catalog and journal databases before they do an assignment with Google Scholar. Their response? Consistently it is that, having used academic databases, Google Scholar seems messy, imprecise and ultimately more difficult to use. Here's a quotation from one of my students:

> "I have never found Google Scholar as frustrating and limiting as I did with this assignment. I'm so grateful for other, better options of researching articles and books!"

Fourth, students need to develop solid skills in evaluating information for both quality and its relevance to whatever research problem they are dealing with. This involves us helping them with criteria to use and giving them a lot of practice.

Fifth, students need to join the academy. What do I mean? I mean that students begin their studies as outsiders. The professor is the expert. They are not. Thus they are on the outside of the discipline, not participants in it. They need to become participants, practitioners of the discipline rather than spectators. The only way to do this effectively is to enable them to learn the culture of the discipline – what it values, how it does research, and what its discourse sounds like.

Disciplines are comprised of three basic elements that define what they are and do:

- Epistemology – The way in which we determine what information sources are most important to our discipline, what sources of knowledge are crucial and what are not.

- Metanarrative – Our story, the things we tell ourselves about our discipline's values, culture, and importance.

- Method – How we do our work, including research method, criteria for good evidence in our field, our discourse with one another, and so on.

When someone understands a discipline from the inside out, amazing things can happen. Let me give you an example. We had a graduate student in Old Testament who was involved in an oral defense of his thesis. Two of the three examiners were external experts. After a couple of preliminary questions, I observed something absolutely amazing. These experts were not examining our student. They were picking his brain for insights into research *they* were doing, because his particular theory of narrative indicators of the pleasure or displeasure of God was revolutionary. How did this turn into a conversation among colleagues when it was supposed to be an examination of a student? It happened because the student had demonstrated

himself to be a colleague. He thought like they did, he talked like they did. He had things to offer them. He also got an A.

We have a long tradition in academia of delivering content to empty pots who need filling. That's all very well, but it is intensely alienating. Students learn *about* the professor's subject. It is not their subject even though they struggle to understand it and learn its content. They are outsiders looking in. When it comes time to do a research project, students are sent *out* to do the research (I almost said, "sent out into the wilderness to do the research"). They are offered what they often see to be inadequate instructions, and their main motive is to figure out "what the professor wants" and do whatever that is so they can get a good mark.

I submit that the best way to turn observers into practitioners is to teach them right in the classroom how to become good researchers. Research instruction within disciplines is the way to create active, participating learners.

Prospect

Teaching students to handle information well and do problem-based research is not a simple task that can be accomplished in an hour or two. If, as I believe, this is an issue that needs to be resolved in much larger ways, through the curriculum, getting it on the academic agenda is not going to be simple, nor quick.

Ultimately, I think this is a task for professors, supported by librarians, rather than for librarians themselves.

I'm a great believer in research and writing courses that are required within the cores of various majors, having worked with one for several years now. Professors and academic administrators can get a better hearing in the planning and development of such courses by talking about "writing." The point here is that many academics view the problem with information literacy (which is process) as a problem with writing (which is the product). If an academic department values the ability to write well within its discipline, then a writing course, specific to that department, is a solid way to express that value. This is where we can argue that writing is not isolated from research skills. Both are necessary to create good writers. If you can get 7 or 8 hours of research instruction into a 3 credit writing course, it is bound to make a significant difference in student research ability. But you need to do more than teach about research. I've found that the best way to solidify the instruction is by having a required research paper for the course and calling for several assignments related to the various stages of research for that paper (Badke, 2013b).

Ultimately, the teaching of research processes has to move into the foundation of every course. Process and content must both be seen as essential to becoming an educated person. Earlier I

said that students are made to feel alienated by being sent *out* to do their research. The message they hear is that they are responsible to learn the process of doing research on their own with minimal instruction. They also hear that the doing of research itself is not a high priority in their education, because the professor didn't teach them how to do it. Finally, they hear that, if the professor has sent them out to do research, and they are faltering at it, either they are really incompetent (that is, this must be easy or the professor would have taught them how to do it), or this is just another example of an impossible task expected of them by professors who really don't understand what their students are going through. Students blame themselves or their professors, but the one thing that are certain about is that they hate research.

Professors need to appreciate that, when they assign a research paper, get it from the student near the end of the semester and then grade it two weeks to a month later, the student has no opportunity to improve in research skills. Students often don't even read the comments on the paper, because reading comments doesn't get grades and tends to bring on a gloomy mood. So we now have a common component of student requirement that is simply not helping those students to grow in their ability to do it.

The solution? Faceting assignments through a process of formative assessment. It's a simple concept, but it can be revolutionary. Professors can break their research assignments down into four or five smaller assignments, each of which is assessed before the student can go on. The research project thus stops being summative (something to be submitted for a final grade, with no retries and minimal opportunity to develop skills) and becomes formative (a means of developing research skills).

Students first submit their planned topic, along with a summary of the topic from a couple of reference sources they reviewed in order to get a working knowledge, and a proposed research question and preliminary outline. This is evaluated by the professor (perhaps in conjunction with review by a librarian), and students get a chance to resubmit if the work isn't up to par. Second, students do research in specified types of databases, recording what databases they searched, the search terms and features they used, and the bibliography they came up with. Strategic librarian instruction in class, focusing on advanced use of databases, is crucial at this state. Once again, students get a chance for resubmission if there is a problem. This can be split into two assignments if you want to distinguish book catalog searching from journals. Third, students provide an annotated bibliography and a more developed paper outline. Fourth, students submit the final paper.

Several key factors are involved here. Initially, professors must focus on process as much as on content when they evaluate student research. Thus they need to look at *how* students carried out their research (method) as well as *what* they produced (content). Next, professors can

really benefit from the assistance of librarians in developing faceted assignments and in having librarians come into class for instruction at key points. Finally, students need to recognize that the only way to get good grades is to read the professor's comments and revise any assignments that are not up to par.

Faceting provides an opportunity to develop student researchers, skilled handlers of information, especially if it is done through the curriculum (Badke, 2012).

Liberty has extensive online programs which could lend themselves very well to the same sorts of faceting of assignments. Though labor-intensive for professors, the back and forth of mentoring students through their research is no more challenging online than it is live (see examples of online research instruction at https://sites.google.com/site/williambadke2/COMM110Research (undergraduate) and http://acts.twu.ca/library/research500.htm (graduate).

Hope

I think we are on the verge of a research instruction revolution. As the world of information becomes more and more confusing, and as databases become more and more complex, I see a growing hunger among academics and students for someone to lead them out of the information fog. I believe the time is now to shift from being content providers to developing student researchers who handle content with skill and wisdom.

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