

Badke, W. (2010, April 29). Lots of technology but we're missing the point: providing only the tools isn't enough. *eSchool News*.

Though I'm a technology junkie, I continue to revel in the fact that so much of the world's information is never more than a few keystrokes away. I remember the days of those terrible old search engines that returned 10 million results, most of them irrelevant. I marvel now at the ability of Google or Bing or Wolfram Alpha to deliver pretty much what I ask for.

Educators, from K to Ph.D., have assumed that our most foundational task is to put the best technology into the hands of as many people as possible. Once they have the tools, the assumption goes, our students can flourish. Whether delivering unbelievably cheap laptops or sophisticated scientific databases, education is in a providing mood despite the economic downturn. Many are predicting that the result will be a utopia in which education and technology create the super-student of the future.

My institution—Trinity Western University, in Langley, British Columbia—has technology: lots of it, from campus-wide Wi-Fi, to extensive library databases, to laptops in the hands of most students. One would think that utopia was just on the horizon, and the coming techno-student was emerging before our eyes. But, as necessary as technology is to education, something crucial has been left out. The give-them-technology movement is missing the point.

Let me illustrate: A student comes to me, an academic reference librarian, with a list of ISSNs (barcode-like numbers that identify journals and distinguish them from one another). She asks, "Can you tell me how to find these articles?" I see a whole series of erroneous notions running through her mind even as I tell her, "No, I'm sorry, but I can't." What went wrong? Well...

- She confused an ISSN with a library call number. An ISSN can only tell her what journal the article came from, not identify a specific article.
- She got the ISSNs from a journal database, not realizing that she had already found the needed citations but had ignored them in favor of copying down the ISSNs.
- She likely already had the full text of the article as a PDF attached to her citation, but now she lost it, because she copied down the ISSN and then closed down her session in the database.

The average college student can't tell you the difference between an article and a journal, believes that you can get the full text of most academic journal articles from a Google search or at least Google Scholar, and has no idea what a subject heading is.

The average college student admits to finding even Google frustrating. The average college student is only vaguely aware of the range of journal and related databases to which the college subscribes at great cost. Boolean searching, use of advanced search options, and identification of criteria for evaluation of information are all low on the radar of the average college student. The average student submits a bibliography for a research paper that is 4 to 6 references long and contains no journal articles.

Throwing technology at our students is missing the point. It's like saying, "Give them cars, and they will drive," about a non-driving population. Certainly they will, and we can watch in horror as they ramble over the sidewalks and lawns of the nation until they inevitably crash into one another. Cars without drivers who have passed a driver education course are tools for mayhem.

Let me suggest something outrageous. There is an enormous blind spot in all of education, throughout the whole world. It is simply this: We are not teaching our students how to handle information. Paul Zurkowski, a representative of the information industry, recognized this problem as early as 1974 and coined the term "information literacy." Back in 1974 he called for a massive program to train the 80 percent of the U.S. population that was not information-literate, setting a goal of 10 years ending in 1984. It never got off the ground.

But this is a different age. Surely it can't be true that most current students are information-illiterate. Our universities have information literacy librarians who go into classrooms and teach students how to use databases and other forms of information technology. President Obama declared October 2009 National Information Literacy Awareness Month. Add to that the simple fact that students surely must learn to handle information on their own over time. Clearly I'm in error, stirring up a tempest in a teapot.

We could wish that this were so, but it's not. Those many information literacy librarians scurrying from classroom to classroom are universally frustrated, because they know that making a student information-literate is not a remedial exercise that can be accomplished in an hour or two.

Let's consider what a skilled handler of information would need to know and do:

- Identify and distinguish the myriad forms in which information comes today, from traditional books and journals to academic web sites, blogs, wikis, prepublication academic articles posted for review, and so on.
- Identify a research problem and state it clearly as a focused question or thesis.
- Determine which of the multitude of finding tools are best able to identify relevant information to deal with the research problem.
- Optimize the advanced features of any number of databases, most of which have different interfaces and different search options.
- Prioritize criteria needed to assess the complex world of today's technologically-based information in order to determine whether a piece of content is relevant or worthy to be included in the research task.
- Distinguish among citations to books, essays within books, journal articles, and so on, capturing the relevant information required for a bibliography.
- Make the best use of bibliographical managers like RefWorks, EndNote, or Zotero.
- Harness the information embedded in a variety of found resources that generally exist in a variety of formats.

This is not a remedial task, like learning how to read a spreadsheet or memorizing the periodic table of the elements. It is closer to learning a new language.

That is why it remains the biggest blind spot in higher education today, and our greatest example of missing the point. No matter how much technology we throw at our students, they will flounder if they do not know how to handle information effectively. There is a myriad of research available (search "information literacy" in *Library, Information Science & Technology Abstracts*) showing that students, right up into graduate school, are information-illiterate, lacking any more than basic skills in handling information effectively. Nor do they become information-literate by research experience.

In concert with Zurkowski, let me put out a new call for academia to turn to information literacy librarians and let them propose ways to make information literacy foundational to all education. Our students deserve intense instruction and practice in developing the skills they do not currently have in our Information Age.

Give them technology, to be sure, but make them skilled information handlers as well.

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