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# The Psychologist, the Philosopher, and the Librarian The Information Literacy Version of CRITIC

Brad S. Matthies

*Butler University*, [bmatthie@gmail.com](mailto:bmatthie@gmail.com)

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# The Psychologist, the Philosopher, and the Librarian

## *The Information-literacy Version of CRITIC*

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*The information-literacy version of CRITIC expands upon Wayne R. Bartz's development of that acronym. This step-by-step method for introductory critical thinking is reinforced by an exercise inspired by Bertrand Russell.*

BRAD MATTHIES

In my role as an academic librarian, I am frequently asked by faculty members to teach information-literacy skills to their students. Broadly defined, an information-literate person knows when information is needed and also has the ability to “locate, evaluate, and use effectively the needed information” (Association of College and Research Libraries 1989). The notion of creating lifelong learners who have the ability to think critically about all manner of information is central to the philosophy of information literacy (Association of College and Research Libraries 2000). An information-literate person has acquired a skill set which allows him to continue learning throughout his lifetime.

During the fall of 2002, my colleague and I designed a

## The Information-literacy Version of CRITIC

Claim?

Role of the claimant?

Information backing the claim?

Testing?

Independent verification?

Conclusion?

(Note: Our last three words vary slightly from Bartz's original acronym.)

### Claim

What is your source saying? Is the source's claim both *timely* and *relevant* to your particular question or thesis? Has the source presented the claim in a clear and reasonable manner, or is there evidence of motivationally biased language? If the source is overtly biased or totally unintelligible, you should reconsider using it to support your paper or thesis.

### Role of the Claimant

Is the author of the information clearly identifiable? If so, can his or her credibility be established? Also, based on your prior examination of the claim, is there any reason to suspect bias on the part of the author? This may include political, religious, philosophical, cultural, and financial biases. For example, could a concern for profits and sales cause the C.E.O. of an automotive company to state that her company makes the most reliable cars in the world? If you suspect bias or a lack of credibility, this does not automatically invalidate the information. Rather, it means that you will have to place more emphasis on the other steps of CRITIC before you can make a decision on this source.

### Information Backing the Claim

What information does the source present to back the claim? Is it information that can be verified, or does this source rely on testimony or anecdotal evidence? If this source presents original research, does the source explain how the author gathered the data? If the source is an article, does it cite references and are they credible? If the source is a journal article, is the journal peer-reviewed? Finally, you should always remember the skeptic's rule: extraordinary claims require extraordinary evidence.

Consider these examples:

Example 1: The reason that Brand X's car is more reliable than similar cars in its class is that Brand X uses a computer-automated assembly line.

Example 2: The reason that Brand X's car is more reliable than similar cars in its class is that Brand X utilizes secret, alien technology that only that company is privy to.

Example 1 presents a *reasonable* claim that could be backed up with *ordinary* evidence. On the other hand, example 2 presents an *incredible* claim that would require some *extraordinary* evidence to prove.

# CRITIC

## Claim

## Role of claimant

## Information backing the claim

## Testing

## Independent verification

## Conclusion

series of library-instruction sessions for a newly developed freshman course. Among the many requirements for this particular course was an emphasis on helping students to think critically about information. In effect, we needed to provide the students with a basic set of information-literacy skills. Aside from being a librarian, I also consider myself to be a "rational skeptic" (Shermer 1989, 17), and on more than once occasion, I have been known to practice philosophy and science without a license. It was while developing the evaluation component of our sessions that I happened to read an article by Wayne R. Bartz, published in the *SKEPTICAL INQUIRER* (September/October 2002). Calling his methodology an acronym, CRITIC, Bartz described a simple mnemonic method that he successfully used to teach beginning psychology students the scientific method.

My colleague and I adapted Bartz's work and created what I like to call the information-literacy version of CRITIC. Our acronym<sup>1</sup> is a step-by-step process that helps students to evaluate and select credible sources based on the available facts. Like Bartz, we have incorporated elements of the scientific method into our acronym; however, being librarians, we also relied on our expertise in source evaluation, source selection, and information literacy. What follows is our adaptation of Bartz's original idea.

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*Brad Matthies, M.L.S., is a reference and instruction librarian at Butler University in Indianapolis, Indiana. He can be reached at bmatthie@butler.edu.*

## Testing

How might you test the claim your source is making? Conduct your own qualitative or quantitative research (e.g., marketing research, statistical analysis, design a research study, etc.).

Example:

Claim: All business majors are Republicans.

Possible test: A survey measuring the political preferences of all business majors may support or disprove this claim.

It may not always be possible or practical for you to conduct a detailed analysis of the information or to carry out actual testing. If this happens to be the case, can you devise a possible way to test the claim? If a claim cannot be tested, then that claim should not be taken seriously.

## Independent Verification

Has another reputable information source evaluated the claims the source is making? Does this source support or refute the original claim? After conducting a review of the literature, what do the experts have to say about the claim? Are the experts basing their opinions on detailed analysis and testing, or are they just presenting opinions with little or no evidence? Moreover, are the experts truly experts on the topic, or are they presenting opinions about a topic they are not qualified to discuss? This step may also include speaking to professors, librarians, or someone in the relevant business or industry. If you find that numerous experts confirm the original claim your source is making, then it is *probably* true. If numerous experts dispute the original claim, then the original claim is *probably* false. If you find that the experts do not agree, then the claim that your source is making is, at best, inconclusive. Sometimes, the experts will conclude that there is not enough information to reach a consensus either way. In this instance, you should suspend your judgment until you can find more information.<sup>2</sup>

## Conclusion

What is your conclusion about the source? Taking into account the first five steps of CRITIC which apply to your source, make a judgment: Should this source be used in a paper or report? Information evaluation can be very subjective, so it is important to consider all of the ascertainable facts. Remember that the first five steps of CRITIC need to be looked at as a whole before you can make a final decision about your source. Also, not all information sources can be examined using each of the five steps. In this case, you should then consider the steps that do apply to your particular source. Finally, you should always be prepared for undiscovered information that may later invalidate your source.

## CRITIC in the Classroom

We developed our version of CRITIC, but still needed an exercise to foster student learning and impress upon students the importance of why they should critically evaluate all information. Being a bibliophile and a skeptic, I decided to consult the skeptical literature for an idea. I found myself rereading Bertrand Russell's *Sceptical Essays*, which soon led me to a solu-

tion. Russell writes: "If there is to be toleration in the world, one of the things taught in schools must be the habit of weighing evidence, and the practice of not giving full assent to propositions which there is no reason to believe true" (Russell 1928, 169–170). Following this observation, Russell goes on to describe one such exercise that would do exactly that. He proposes that to teach the value of skepticism, students should be encouraged to study a controversial issue that is well-covered in the media. Naturally, some of this media coverage is biased. Thus, he reasoned, by exposing them to the bias early on, students could be taught to infer what really happened. According to Russell, teaching this type of skepticism "would make the children in later life immune from those appeals to idealism by which decent people are induced to further the schemes of scoundrels."

So, with Russell's eloquently simple idea as my inspiration, we designed a similar activity that we could use to reinforce CRITIC. In our exercise, students are divided into groups and given a preselected source. Using the information-literacy version of CRITIC, each group is required to evaluate its source for credibility. The overall goal is to report to the class on whether the group's source should be used to support the topic of a fictitious paper. Naturally, the key to making this activity work is for the instructor or librarian to select a topic that is widely covered and controversial. For example, one fictitious topic we often use is a paper that investigates Wal-Mart's "Made in the U.S.A." campaign, which was used in the late 1980s. Despite Wal-Mart's claims to the contrary, many of Wal-Mart's products were—and continue to be—made overseas. Moreover, there is what could be best described as a subculture of anti-Wal-Mart activists who generate a prolific amount of anti-Wal-Mart literature. Some of this literature is true, some is biased, some is apparently false, and all of it is suited for this exercise—especially when it is compared to similar, credible sources.

Yet the question remains: does our exercise<sup>3</sup> foster critical thinking? My colleague and I purposely designed this activity around active learning techniques, and we incorporated elements of constructivist learning pedagogy.<sup>4</sup> These strategies allow the instructor to observe learning as it happens; so, while our observations are admittedly anecdotal and potentially biased, we have concluded thus far that CRITIC does indeed work.<sup>5</sup> In fact, from a pragmatic point of view, even if the students do not remember all of the component steps of CRITIC, they do walk away from our workshop with the realization that information can be easily manipulated. This, of course, is the main thrust of Russell's simple idea and likely why the exercise is so effective.

Many of the instructors we work with often create additional class assignments that require their students to use CRITIC (e.g., using CRITIC to evaluate sources in a final project, questions about CRITIC on a quiz, etc.). After presenting the acronym and exercise at a recent library instruction conference, we received many positive comments from our peers, including frequent references to the exercise itself. So far members of the academy seem to be enamored with Russell's

idea. Of course, it is likely that Russell would not be surprised.

In fact, were Russell alive today, I suspect that he would sardonically shake his head at the wealth of misinformation, confusion, and outright quackery that abounds in the information age. Such examples as the Sokal Hoax, which challenge the infallibility of scholarly publications (Sokal 2000), the forged burial box of James, brother of Jesus, the *New York Times* plagiarism case (Adler 2003), and the Raelian fiasco (Mirsky 2003) would only serve to bolster Russell's skeptical mission of outreach and education.

**Skeptics should seek out an  
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By the very nature of their profession,  
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information to support the cause of  
education and information literacy.**

In conclusion, I issue a two-part challenge to all educators in the skeptical community. First, I challenge all skeptics to teach basic skepticism whenever and wherever they can and to whomever will listen. Moreover, do not be afraid to teach outside of academia and do not be dissuaded by colleagues who might criticize your efforts. Despite being admonished by his peers (Leiber 2004, 12–13), Russell still took the time to make philosophy and critical thinking<sup>6</sup> presentable to the layperson. So, let Bertrand Russell serve as your inspiration!

Part two of my challenge is for all skeptics in education to seek out an often-overlooked skeptical partner in academia: the librarian. By the very nature of their profession, librarians are constantly organizing, evaluating, and selecting all formats of information to support the educational enterprise. Moreover, being staunch proponents of democracy and the freedom to read, they are likely to not shy away from many of the controversial issues that skeptics often become embroiled in (American Library Association 2000), and they certainly are willing to collaborate with anyone who is willing to further the cause of information literacy (Association of College and Research Libraries 2001).

Whether labeled skepticism, critical thinking, or information literacy, these methods need to be widely taught. Indeed, were skepticism taught on a wider scale, perhaps Russell's dream could come true and, collectively, we would finally "revolutionise human life" (Russell 1928, 13).

## Acknowledgments

I would like to thank my colleague and fellow collaborator, Jonathan Helmke, Access Services Librarian at Butler University. Were it not for his willingness to try something new, the information-literacy version of CRITIC might not have been a success.

## Notes

1. Schick and Vaughn developed a similar acronym called the SEARCH formula. See Theodore Schick, Jr., and Lewis Vaughn, *How to Think About Weird Things: Critical Thinking for a New Age* (New York: McGraw-Hill, 2002), 252–257.

2. Our guidelines for considering expert testimony were adapted from Bertrand Russell's famous maxim on expert testimony. See Bertrand Russell, *Sceptical Essays* (New York: W.W. Norton & Company, Inc., 1928), 12–13.

3. For a detailed explanation of the acronym CRITIC and the CRITIC exercise, please see Brad Marthies and Jonathan Helmke, "Using the CRITIC Acronym to Teach Information Evaluation," in *Library Instruction: Restating the Need, Refocusing the Response: Selected Papers Presented at the Thirty-second National LOEX Library Instruction Conference held in Ypsilanti, Michigan May 6 to May 8 2004*, ed. D.B. Thomas, R. Baier, E. Own, and T. Valko, Ann Arbor, Michigan: Pierian Press, forthcoming. See also <http://blue.butler.edu/~bmarthie/loex04.html>.

4. Our exercise is not constructivist learning in the purest sense of the idea. However, constructivism did influence its development, and elements of constructivism are apparent. For more information about constructivist pedagogy, see Susan E. Cooperstein and Elizabeth Kocevar-Weidinger, *Beyond Active Learning: A Constructivist Approach to Learning*, *Reference Services Review*, 32 (2) (2004): 141–148.

5. We plan to test the acronym and exercise by conducting an assessment of learning outcomes.

However, such a project is still in the early stages of discussion.

6. Although he never specifically used the term, it is notable that many of Russell's writings foreshadowed latter work in education that would eventually be called critical thinking. For an excellent overview of a Russellian approach to critical thinking, see the work done by William Hare which was later summarized by Hager: "Bertrand Russell on Critical Thinking," in *The Journal of Thought*, 36 (2001): 7–16; and Paul Hager, "Russell's Conception of Critical Thinking: Its Scopes and Limits," *Inquiry: Critical Thinking across the Disciplines*, 20 (2) (Winter 2001): 11–19.

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