The Internet: a Bane or a Boon to Critical Thinking?∗

Joy McGregor†

You have heard the outcry from both sides: "The Internet will ruin our children!", "The Internet is the answer to all educational problems!" We recognize the need to tame the hysteria in either direction, and search for truth (or truths) found somewhere in the middle. Certainly there may be dangers linked to Internet use, and it is easy to find a great deal of literature and rhetoric expounding on these. And yes, perhaps the Internet provides us with a tool that can improve education, maybe even dramatically so. The ways in which the Internet can be employed are many, but will be of little consequence if the use has no effect on improving education and thereby improving the lives of our students.

The Internet is often touted as a means to teach critical thinking. To determine whether this is a reasonable claim, we need to examine the idea carefully. One of the crucial needs of modern-day society is for people who are able to think critically. As societal problems become increasingly complex in a post-industrial world, those who are able to solve those problems will be highly valued. As more and more countries experiment with democracy, the need for informed thinkers increases. With available information and misinformation increasing exponentially, those able to evaluate and use appropriate information effectively to make decisions and solve problems will be in a position to improve society. As Glaser (1941:5) noted, "good citizenship calls for the attainment of a working understanding of our social, political, and economic arrangements and for the ability to think critically about issues concerning which there may be an honest difference of opinion".

Definitions of critical thinking abound in the literature, each one touching on different aspects of the concept. No one definition is agreed upon by those who study, discuss, or claim to teach critical thinking. Several definitions that include a number of important elements will be examined in this paper.

∗ Submitted and accepted as a refereed conference paper.
† Joy McGregor is Assistant Professor with School of Library and Information Studies at Texas Woman's University, Denton, Texas, USA. Joy's WWW homepage is available at <http://venus.twu.edu/~F_MCGREGOR/>. Joy may be contacted via email at <f_mcegregor@twu.edu>.
In 1971, Cohen (1971:5) stated that critical thinking is "using basic thinking processes to analyse arguments and generate insight into particular meanings and interpretations; develop cohesive, logical reasoning patterns and understand assumptions and biases underlying particular positions". Logic, reasoning, and in-depth analysis are important elements of this definition. Over a decade later, Ennis (1985:54) defined critical thinking as "reasonable, reflective thinking that is focused on deciding what to believe or do". He called this a "working definition," taking critical thinking a step beyond the evaluative element that he had earlier advocated and placing it into a decision-making or problem-solving context.

In 1996, Richard Paul described critical thinking as "thinking about your thinking while you're thinking in order to make your thinking better...[It is self-improvement in thinking] through standards (that assess thinking)" (Paul and Elder 1996a:1). His description of it as "the art of taking charge of your own mind" (Paul and Elder 1996b:1) gives the notion a highly metacognitive aspect. Michael Scriven and Richard Paul (1995:1) formally define critical thinking as "the intellectually disciplined process of actively and skillfully conceptualising, applying, analysing, synthesising, and/or evaluating information gathered from, or generated by, observation, experience, reflection, reasoning, or communication, as a guide to belief and action". Attempting to improve that thinking takes the concepts of logic, reasoning, analysis, evaluation, problem-solving, and decision-making to a higher level of self-awareness.

What does all this have to do with Internet use? Beginning with a premise that students' use of any resources should involve and ideally improve critical thinking, the Internet is a remarkable resource with potential to promote that improvement. But whether growth occurs depends greatly on how teachers expect the Internet to be used.

No medium, in and of itself, is likely to improve learning in a significant way when it is used to deliver instruction. Nor is it realistic to expect the Web, when used as a tool, to develop in students any unique skills.

(Owston 1997:29)

If the Internet is viewed as simply another source of information, roughly equivalent to the books in the library, students will treat it the same way they do those books. They will do no more and no less
critical thinking than they have been encouraged to do with print materials.

The Internet's ease of use may be an advantage in many ways, but that ease may provide one of the biggest threats to critical thinking. Recent research shows that copying information directly from sources during research paper writing (which we have always been aware was a problem but have done little about except to preach against it on a moral basis) is not only rampant, but provides a clear indication that students are not constructing their own meaning about the topic they are studying (McGregor and Streitenberger 1997). An examination of the kinds of errors made while copying directly from sources shows that little basic comprehension occurs, let alone critical thinking. If this is true with information that must be laboriously handwritten or typed into a research paper, how much easier is it to download information and paste into a word-processed paper? Earlier research by McGregor (1993) found evidence of exactly this downloading process in research papers. If teachers and librarians do not address the diseases shown by the symptom of copying -- non-involvement, non-critical thinking, non-learning -- the Internet, with its sheer volume of information, will only make the symptom harder to detect. As long as assignments do not require students to think critically about the information they encounter, giving them opportunities to apply this information to solving real problems or making decisions, information from the Internet will only make the standard behaviour of copying an even easier way out than it has been previously. Though not caused by Internet use, this problem will not be solved by simply introducing Internet use, and it and may well be exacerbated.

Assuming that students are motivated, however, to construct their own understanding based on the information they discover and that they are directing their energies toward problem-solving and decision-making with this information, the Internet provides an interactive, eclectic environment in which they can explore and make their own discoveries. But are they prepared to do that successfully? In what way does critical thinking impact this process?

For the most part, students assume that the information contained in their library is accurate, credible, and reliable. Why would the adults in charge order anything that was not? Where students have been encouraged to evaluate information, typical students apply whatever evaluative skills they have developed to assessing
currency by looking at the copyright date and determining relevance to their topics (both of which are important critical thinking skills), but they probably appropriately assume accuracy, credibility, and reliability of that information. The same assumptions will be applied to information from the Internet unless students are taught specifically to do otherwise. Where those assumptions may have been largely valid with the encyclopedias and books in their library collection, they are much less valid with information that can be generated by absolutely anyone.

The very nature of information on the Internet provides a much more meaningful experience in evaluating information for accuracy, credibility, and reliability. Suddenly a need to evaluate can be demonstrated. No longer can students blindly accept information that has been screened for them by selection policies. They are like shoppers who move from an elegant jewellery store, where no one would question the genuineness of the jewels sold, to an open-air marketplace, at which anyone and everyone sells whatever they want to sell and the unsuspecting buyer might be fooled into believing a beautiful, worthless stone is real and valuable. Suddenly the shopper's ability to recognise real gems becomes necessary and important. With the open-air marketplace of the Internet, the teacher librarian has an unprecedented opportunity to prove the need for learning to evaluate information. The dangers of not doing that can be easily exposed. Critical thinking about the information they read -- using logic, reasoning, and analysis to go beneath the surface, reflecting on the ideas contained in what they find, determining their value in decision-making or problem-solving, and examining their own thinking about these ideas -- will be crucial as students encounter a variety of viewpoints, some of which will directly contradict others. Teacher librarians can "encourage students to explore the Web [or any part of the Internet] with the goal of having them weigh evidence, judge the authenticity of the data, compare different viewpoints on issues, analyse and synthesise diverse sources of information, and construct their own understanding of the topic or issue at hand" (Owston 1997:31).

To demonstrate graphically the ease of posting misinformation to the Internet, a teacher librarian could construct a simple web page providing information students know to be false -- a fire that destroyed their school last weekend, a football game lost instead of won, inaccurate names of teachers and principals, a fictitious student winning a prize that someone in the class concerned
actually won -- and bring the file up within a web browser as if it were really a page on the web. When students see a page that looks just as official as other pages, but containing patently false information about their own lives, they will recognise that the information they see on a website cannot necessarily be taken at face value. The need for critical thinking will be made real.

The potential impact of the Internet on critical thinking goes far beyond the few factors mentioned here. Just as the Internet itself is almost limitless, so is the topic of critical thinking. The purpose of this paper was to address the reality that using electronic resources such as the Internet will not automatically trigger critical thinking. The individual user will make the difference. Those interested in the potential of the Internet will go beyond this point by reading further, exploring new avenues, and examining new ideas. That potential has only been alluded to, in terms of evaluative thinking, within the limits of this paper. You, the independent learner, will go away from this virtual conference with a germ of an idea, will investigate the subject further, and will take the risk of applying the ideas to your specific situation. Your students will be the beneficiaries, as you make learning real for them.

A variety of websites related to critical thinking exist. These can be used by teachers, librarians, and/or students for further investigation and for springboards to new ideas. Some are specific to Internet use; some are not.

Links to a few sites are provided below. Search engines will lead you to many more. Paul (1996a) makes the point that teachers cannot effectively teach students to think critically if the teachers themselves are not skilled at doing so. As you look at these sites, engage your own mind in some critical thinking -- do these sites really do what they claim to do?

The Just Think Foundation
<http://www.justthink.org/>

Salish Sea Expedition
<http://www.olympic.net/salish/>

Choose the Best Engine for Your Purpose
<http://www.nuevapvt.k12.ca.us/~debbie/library/research/adviceengine.html>

Critical Evaluation Surveys
<http://www.capecod.net/schrockguide/eval.htm>
The New ‘Homework’. Parents and Students Together on the Web: a Dozen Information Skills for the Home
<http://fromnowon.org/feb97/teach.html>

The Critical Thinking Community
<http://www.sonoma.edu/cthink>

Critical Thinking in an Online World
<http://www.library.ucsb.edu/untangle/jones.html>

How to Evaluate Information Sources
<http://www.santarosa.edu/library/lib.guide.qual.shtml>

Mission: Critical
<http://www.sjsu.edu/depts/itl/>

Critical Thinking
<http://www.fsl.orst.edu/cof/teach/for442/ct.htm>

Evaluating Information on the Internet
<http://www.infotoday.com/imag/may/techmans.htm>

Teaching Critical Evaluation Skills for World Wide Web Resources
<http://www.science.widener.edu/~withers/webeval.htm>

References


