

4-1-2012

## CTips, Issue 1: What is critical thinking?

Carolyn G. Hartz

*St. Cloud State University*, [cghartz@stcloudstate.edu](mailto:cghartz@stcloudstate.edu)

Follow this and additional works at: <http://repository.stcloudstate.edu/ctips>



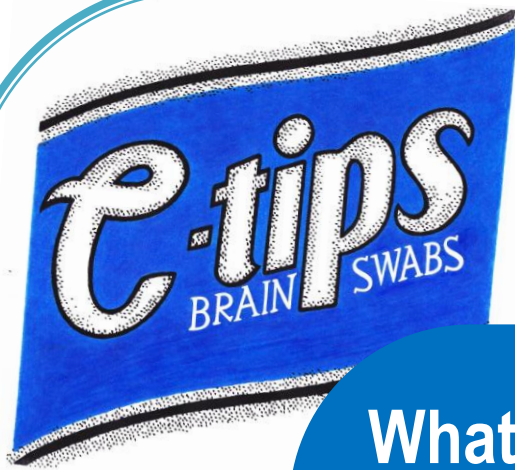
Part of the [Other Education Commons](#), and the [Other Philosophy Commons](#)

---

### Recommended Citation

Hartz, Carolyn G., "CTips, Issue 1: What is critical thinking?" (2012). *CTips: Newsletter on Critical Thinking*. Paper 2.  
<http://repository.stcloudstate.edu/ctips/2>

This Newsletter is brought to you for free and open access by the Department of Philosophy at The Repository at St. Cloud State University. It has been accepted for inclusion in CTips: Newsletter on Critical Thinking by an authorized administrator of The Repository at St. Cloud State University. For more information, please contact [kewing@stcloudstate.edu](mailto:kewing@stcloudstate.edu).



**Issue #1,  
Spring 2012**

**CTips is an e-newsletter, produced by the St. Cloud State University Philosophy Department, focused on sharing resources, ideas, and methods for integrating critical thinking into all courses.**

**This issue was developed by Carolyn Hartz and Paul Neiman.**

## What is Critical Thinking?

**Criticize:** vb., to judge the merits of; to evaluate

Reasoning occurs whenever something is used as grounds for believing or doing something else. Critical reasoning occurs whenever we evaluate this reasoning, i.e., whenever we carefully consider whether the grounds really do provide good reason for the belief (or action). This means that there is a *normative* dimension to critical reasoning: *ought* we to believe this thing on the basis of these reasons?

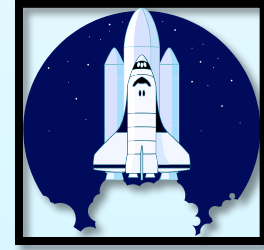
## Critical Reasoning in the Classroom

Supply students with two sets of evidence for a given hypothesis, and ask students to judge which set provides stronger evidence for the hypothesis. Or, show students two ads for the same (or the same kind of) product, and ask them to judge which ad presents better reasons for buying that product.

A crucial part of this exercise is to have students identify what makes one set of evidence stronger than the other. This forces students to evaluate the reasoning itself rather than simply respond favorably if they happen to agree with the claim being presented, and unfavorably if they happen to disagree.

Alternatively or in addition, ask students to construct good and bad reasoning for a given claim. Again, it's an important part of the exercise for students to articulate what makes the good reasoning better than the bad. Students may then share their examples of good and bad reasoning with the class, or trade with other students and evaluate each other's reasoning.

# Case Study: Moon Landing

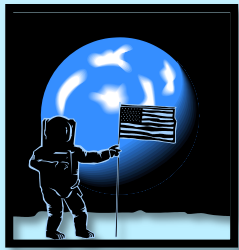


The badastronomy website on the 2001 Fox program “Conspiracy Theory: Did We Land on the Moon?” offers some instructive examples ([www.badastronomy.com/bad/tv/foxapollo.html#poll](http://www.badastronomy.com/bad/tv/foxapollo.html#poll)).

One of the arguments the program makes to cast doubt on the reality of the Moon landing is the following: “If a rocket had landed on the moon, there would have been a blast crater. But there is no such crater. Therefore, the rocket did not land on the Moon.” (Watch the relevant portion of the program here: [www.youtube.com/watch?v=Y5MVVtFYTS0](http://www.youtube.com/watch?v=Y5MVVtFYTS0))

The badastronomy site shows that the first premise of this argument is simply false—first, thrust was decreased as the astronauts landed, and second, the lack of an atmosphere meant that exhaust was able to spread out more easily than on earth which also lowered the pressure significantly. This is a case where one of the reasons offered is simply false. But notice that the conclusion reached does follow from the reasons given—if the reasons were true, the conclusion would have to be true also.

But another argument the program makes doesn’t even have this merit. Although it’s mainly insinuation, rather than a full-fledged argument, the programs highlights the “fact” that about 20% of the public have doubts about the Moon landing. Turns out that’s false, according to the badastronomy site—it’s more like 6%, which is apparently a typical percentage of people to agree to even crazy questions asked in a poll.



But more insidiously, that the Moon landing was (even somewhat) likely faked simply doesn’t follow from this “fact”—even if it were a fact. Popular opinion is irrelevant when deciding scientific questions (Advertisements are even more adept at dragging in irrelevant “reasons” for buying a particular product.)

The program also highlights “experts” claiming that it’s possible that the Moon landing was faked—all the while ignoring the fact that mere possibility is no reason to think that something is true.

Bottom line: we can’t always judge whether a reason given for some claim is true, but we should be able to judge whether the claim follows from the reason given, because this entails examining the *connection between* the reason and the claim (not the connection between the reason and reality).