Theory Explained

by Stephen Lyons

There are those that want you to have your student's place what is theory next to what is religious dogma and to have them make a decision as to which is true. These are not comparable and students should not be expected make a choice. One is theory, the other simply not theory. It is rather religious dogma.

It comes down to explaining the meaning of "theory." Scientists use theory to describe a set of governing principles that explains physical phenomena. The Theory of Evolution is a controversial example of a theory. This one as do others, explains physical phenomena. Let's consider what theory isn't.

A theory is not theoretical in the lay sense of hypothetical nor is it based on notion, compromise, consensus, common sense, conjecture, pronouncement, faith or divine revelation. It is rather the conclusion of scientific research. Customarily subjected to peer review and verified by experimentation before it is released to the public by being published in such journals as the Scientific American or Nature. What should your students know?

Your students' should know that without theories: bridges crash, airplanes don't exist, electromagnetism isn't understood, space flight is science fiction, the Earth is thought to be flat and the Sun goes around Earth. This is only a few example of on theories that explain physical phenomena. You and your students should be able to think of many others. What else you should say to your students?

For example, say to your students: Let's look at the research that was done supporting the theory. Who did the research, how was the research done, what research has been done by researchers to test the theory and who were those researchers? Did the work of these researchers confirm or discredit the theory?

Another part of this verification process is to check to see if any part of the theory conflicts with the Laws of Physics. If it does, then the theory is flawed. It is through this process that your students learn to accept or reject theories. It is not enough to tell them how. They must be placed in a situation where they cycle though the process of evaluation many times.

You are likely now thinking that this requires a college education, one that has a science major or least one Physics course and a logic course.

This focus on the meaning of theory is the result of a perceived threat that the Theory of Evolution is to Creationism. I really doubt if any of this would exist with any significance outside of academia if it were not for the Theory of Evolution's inadvertent threat to the veracity of a system of thought that has as a fundamental premise the existence of a divine creator. But, what is the consequence of modifying the meaning of theory?

There are many consequences. For instance, it discredits knowledge derived from scientific research. It also discredits the conclusions of scientific research as well as being a base for maligning scientists. It can also cause students to reject science. With that achieved, financial support to researchers at institutions such as MIT (Massachusetts Institute of Technology) could be restricted with a snowballing effect. (I don't think they will achieve that without a fight, one that will not be lost by these highly intelligent and educated scientists.)

What may be the result? There may become an insurmountable gulf of difference between the scientists and non-scientists. One where the scientists and the method are not understood by the majority and the scientists perceive the non-scientists as being deficient and perhaps even ignorant. You can prevent this from happening by helping your students understand science.

Addendum A

[Here is an example of the perverted use of theory.]

"*'We didn't go in with a plan. We went in with a theory,'* [Not knowing the consequences of our decision. Since this cannot be admitted, the inappropriate word was substituted.] *said a veteran State Department officer who was directly involved in Iraq policy…' The Bush administration's failure to plan to win the peace in Iraq was the product of many of the same problems that plagued the administration's case for war, including wishful thinking, bad information from Iraqi exiles who said Iraqis would welcome American troops as liberators and contempt for dissenting opinions.*" (Warren P. Strobel and John Walcott, Knight Ridder Newspapers)

Addendum B

Trevor:

I've been aware of this challenge since being a college student. When I created Lessonplans.com, I made the decision to exclude religion form the website. It isn't anti-religion; it is rather pro-science.

The religious attack on science is something I've accepted and realize that it is going to continue until I'm dead. No! It doesn't stop then, the attack continues until religions are considered by government to be archaic and their influence on thought is insignificant.

How long will this take? It may take thousands of years.

We are not at a point in history where the religious will use laws to kill us. They do, however, use laws to control what we can do and they cut-off our cash flow whenever possible.

Sounds link you have become a part of the fight. These people are well educated and know how to use rhetoric and alliance. When you encounter these people, you need to know the rhetorical process and have an alliance of likeminded supporters. If you don't, then you are at a disadvantage. It is like going into a card game where the cards have been stacked.

Stephen