Teaching Evolution vs. Creationism in the Classroom

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Foundations of Education
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Where did we come from? How did we get here? These are questions that have confronted mankind since the beginning of time. But, when was the beginning of time? For most scientists, the answer would come from the Big Bang Theory, the most popular and most tested scientific theory of creation that exists today. This theory was often described as the stepping stone for Charles Darwin’s theory of evolution, which is the most popular theory for the development of man, and which is taught in most high school science classes throughout the country. Many conservative Christians oppose the teaching of the Big Bang Theory, and the teaching of evolution in public schools. They believe that creation, and the development of man come from the writings in the book of Genesis from the Bible. Teaching theories of creation and man’s development in public schools has led to heated debates and law suits. This paper will discuss the Big Bang Theory, Darwin’s theory of evolution, the Christian theory of creation, and a new theory of compromise called intelligent design. It will also look at the implications of teaching any one of these theories in public, tax supported schools.

As stated before, the Big Bang Theory is the most accepted scientific theory about the beginning of time. “George Gamon, R.A. Alpher, and R. Herman devised the basic Big Bang model in 1948.” (Farrell, 2001, pg. 285) “According to the Big Bang, the universe was created sometime between 10 billion and 20 billion years ago from a cosmic explosion that hurled matter in all directions.” (NASA, 1997, para.1) This matter eventually formed stars and planets and created the stepping stone for evolution, as Darwin’s theory did not have a definite beginning of time. Evidence for the Big Bang Theory includes the expanding universe, cosmic radiation, and predicted elements found in the atmosphere.
First is the expanding universe. “The universe is expanding now, so in the past it must have been smaller. If it were smaller in the past, then there probably was a time when it was infinitesimally small.” (Robbins, 1997, para. 5)

Second is the discovery of cosmic radiation. “In 1965, radioastronomers Arno Penzias and Robert Wilson discovered a 2.725 degree Kelvin cosmic microwave background radiation (CMB) which pervades the observable universe.” (Anonymous, 1997) This was a remnant of heat predicted in the theory.

And finally, there was the discovery of the predicted elements of Helium and Hydrogen. These elements are commonly observed in the universe today, and were predicted in the theory.

The Big Bang Theory is the most popular and widely accepted theory among scientists because there is not another theory available that is more comprehensive. But what do the conservative Christians have to say about the Big Bang Theory?

According to Ferrell (2001) the Big Bang Theory is wrong for several reasons:

1. The Big Bang Theory is based on extremes. A tiny bit of nothingness packed so tightly that it blew up and produced all the matter in the world.
2. Nothingness cannot pack together. It would have no way to push itself into a pile.
3. A vacuum has no density. It is said that the nothingness got very dense, and that is why it exploded.
4. There would be no ignition to explode nothingness.
5. There is no way to expand it. How can you expand what isn’t there?
6. Nothingness cannot produce heat. (pg. 71)

Conservative Christians can refute any evidence of the Big Bang Theory, or any evidence for the theory of evolution. They battle it with their faith. For conservative
Christians, God created the earth, the animals, and man within a period of six days; the Bible says so, and that is what they believe. Any public teaching of theories that contradict this belief is very offensive. No theory is more offensive to conservative Christians than the theory of evolution.

Charles Darwin’s evolution came from his book, Origin of the Species, which was published in 1859. He describes an evolution of plant and animal life by a process of natural selection, or survival of the fittest. Species adapted to their environment and have evolved into their current form over billions of years. “The evidence for evolution has primarily come from four sources:

1. the fossil record of change in earlier species
2. the chemical and anatomical similarities of related life forms
3. the geographic distribution of related species
4. the recorded genetic changes in living organisms over many generations.”

(O’neil, 2001, pg.2)

A mountain of evidence, gathered over the last two centuries, has solidified the teaching of evolution in schools (Weis, 2002). Many people view a theory with such a massive amount of evidence to be fact. This is what concerns conservative Christians.

While many scientists believe the earth is billions of years old, creationists believe that it is between 6,000 to 10,000 years old (Weis, 2002, para.5). Ferrell (2001) suggests that, “Evidence for a younger earth include, (1) ultraviolet light has only built up a thin layer of moon dust; (2) short half-life radioactive non-extinct isotopes have been found in moon rocks; (3) the moon is receding from the earth at a speed which requires a very young earth; (4) the lack of ancient human records—such records do not exist prior to about 4300 years ago.” (pg. 284) Conservative Christians would ban the teaching of
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evolution in schools, and promote the teaching of creationism (Moore, 2004). “Courts throughout the United States have consistently supported the teaching of evolution and have rejected the teaching of creationism in the science classes of public schools.” (para.8) Since public schools are primarily funded by the states, separation of church and state has been the basis for such ruling. In an attempt to chip away at the popularity of evolution in schools, some creationists have come up with a compromise.

“The latest version of creationism, intelligent design (ID), arose as a response to judicial decisions that the Constitution forbids religion in science courses.” (Weis, 2002. para.7) Weis goes on to say, “Unlike, previous versions of creationism, this sophisticated movement, spearheaded by the Discovery Institute in Seattle, has a number of individuals with academic and scientific credentials associated with it. Major ID proponents include Philip Johnson, a law professor; Michael Beke, a biochemist; William Dembski, a mathematician; and Alvin Planinga, a philosopher of religion.” (para. 4) According to Weis, “Intelligent Design posits that the development of species and complex life functions such as the cell, could have occurred only with the guidance from a designer. It leaves God out of the debate, but many critics who argue against bringing religion into science classrooms question who else a designer could be.” (para. 4) Omitting the name of a designer has allowed this theory to gain momentum. Even the president of the United States has given intelligent Design his endorsement. “A sharp debate between scientists and religious conservatives escalated Tuesday over comments by President Bush that the theory of intelligent design should be taught with evolution in the nation’s public schools. When asked to elaborate, Mr. Bush said, ‘I felt like both sides ought to be properly taught.’ (Anonymous, 2005, para.1) This search for fairness has reached high school science teachers in Minnesota.
A survey of over 100 high school biology teachers in the state of Minnesota was conducted by Moore (2004). He was looking for teaching patterns of evolution verses creationism, as well as, the understanding of the legal issues concerning the teaching of creationism and evolution. Moore found, “That only 38 percent of high school biology courses in Minnesota emphasize evolution, whereas 20 percent emphasize creationism and 23 percent emphasize both evolution and creationism.” (para. 9) Moore found that many teachers had a poor understanding of the legal aspects of their teaching.

According to Moore, (2004) Teachers’ responses to the many challenges that often accompany the teaching of evolution are important and have often resulted in lawsuits. For example, lawsuits have arisen when teachers have taught or have been instructed to teach evolution (e.g., Wright v. Houston Independent School District); when teachers have taught or have been instructed to teach creationism (Edwards v. Aguillard, McLean v. Arkansas, Hellend v. South Bend Community School Corporation, and Webster v. New Lenox School District #122); when teachers have refused to teach evolution (Peloza v. Capistrano Unified School District): and when a variety of other situations involving the teaching of evolution have arisen (e.g., Ereiler v. Tangipahoa Parish Board of Education, LeVake v. Independent School District #656, Webster v. New Lenox School District #122, Moore 2002, Moore and Miksch 2003). In some instances lawsuits have been filed when educators followed the law, and in other instances when educators have defied the law. Some of these cases have also arisen from ignorance of the law; as one teacher who was involved in such a lawsuit told me, ‘I didn’t know that I was doing anything wrong.’ Moore goes on to say, “Virtually all states have science-education standards. In many states, these standards treat evolution effectively and require teachers to emphasize evolution in their biology classrooms; teachers can cite these standards when defending their teaching evolution.” (para.12)

It is the science-education standards that have been the topic of heated debate among 20 states (Wilgoren, 2005). The state of Kansas has taken the lead in the controversy over teaching evolution in public schools. In 1999, the Kansas Board of Education deleted references to evolution from their science standards. This caused a national debate over evolution in schools and gave Kansans the stigma of being ignorant. Outside pressure overturned that decision in the next election, but the debate is still alive. “The state is
poised to push through new science standards this summer requiring that Darwin’s theory be challenged in the classroom.” (para. 4)

The state of Ohio has recently deleted the word “evolution” from their science-education standards (Donnell, 2005, para.2). In Dover, Pennsylvania this debate has led to another lawsuit. According to Donnell (2005), “Last year the school board voted to allow high school biology classes to teach the theory of intelligent design. But 11 other parents in Dover were outraged enough to sue the school board and the district, contending that intelligent design—the idea that living organisms are so inexplicably complex, the best explanation is that a higher being designed them—is a Trojan horse for religion in the classroom.” (para.4)

There are four theories of creation, or theories of human development that are the core for heated debates in the classrooms of America, The Big Bang Theory; the theory of evolution; the Christian creation theory; and the theory of intelligent design. According to the Scientific Method, a theory would have to contain experiments that could be duplicated by other scientists, before that theory could become a scientific law. Unfortunately, none of these theories have experiments that can be reproduced; no conclusive proof exists. The debate of teaching creation or development theories in public schools will continue.
References


