

## The Kansas Science Standards - *Local control and a whole lot more*

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Those following the news coverage of the Kansas Science Standards since the infamous vote in August 1999 have been audience to a recurring claim of justification by the Kansas Board of Education board that, "It's about Local control." In addition to this claim, the board has commented that basically all it did was to remove some aspects of evolution and cosmology.

Linda Holloway, Chairwoman of the board at the time the vote took place, has summarized the board's actions in spirit several times. Take for example her speech at the "Back the Board" rally that took place during a Home Schooling Conference held in Wichita, Kansas (June, 2000):

"What we voted for was education, and not indoctrination. Was local control, and not censorship. And was for academic freedom and the freedom of inquiry.

"And I believe that is what everybody wants. We don't want anything...We don't want ideas censored. Evolutionists don't want their ideas censored. And so we voted against censorship. And local districts and local boards that are voted for by their community will be able to address that issue in any way they like. They can teach every theory of evolution if they like. They can teach the very narrow Darwinian evolution that was presented to us. They can teach it any way they want to."

To contrast with the public comments made by Ms. Holloway and the other majority members of the board of education, a partial list of the changes the board *actually* made to the Kansas Science Standards is included here for your consideration. While reading each instance of deletion, insertion, or change, keep the following questions in mind:

- Why was this particular change necessary?
- Out of countless other illustrative and relevant examples, why was this specific example inserted by the board?
- Are there trends in the editions and insertions?
- Do the insertions or changes in the section represent mainstream science?

Here is the partial list of changes made by the Kansas Board of Education:

- Science is re-defined to allow supernatural causation as a valid scientific explanation for natural phenomena.
- Students may initiate discussion on any topic they feel is related to their science curriculum, even if it is a pseudoscientific topic, and expect it to be treated as valid, mainstream science. In this sense, the role of the instructor is reduced to that of a group facilitator.
- Patterns of Cumulative Change: *entire section deleted.*
- The board modified an example involving fossils. Though stopping just short of citing a creationist account, the modified example is a set-up for the biblical flood account as an explanation for fossil record.
- A learning example originally written to aid students in analyzing evidence was changed into a statement about "weakness in reasoning" that led to hypotheses about the extinction of the dinosaurs. Then another example was added to discuss Mt. St. Helens and the notion that "at least some rocks may have been laid down quickly." This example is found in popular creationist literature.
- An example about similarity and differences between different animals and natural selection was changed to stress the following statement: "*Natural selection can maintain or deplete genetic variation but does not add new information to the existing genetic code.*" This is a misleading statement because (1) natural selection is not the mechanism in evolution responsible for variation anyway, and (2) this implies that the mechanisms of evolution are not capable of creating new information, which is false.
- An entirely new section was added to again stress that, "*Natural selection can maintain or deplete genetic variation but does not add new information to the existing genetic code.*" See previous example for additional information. Note that this makes it impossible to teach evolution without going against what is written in the standards. So the board's claim that "evolution can still be taught if the local districts want" is not true as a practical consideration.
- Compelling evidence for long-range evolution is removed. It is obvious that the mechanisms employed therein are the same mechanisms that would allow speciation. According to creationist belief, speciation is not possible.

- An illustrative example for geology where models of rock type are constructed using common materials is completely changed to instead, *"Discuss the destructive force of volcanoes and resultant rocks. Discuss major river floods and resultant sedimentary rock deposition."* These topics are recurring themes in creationist literature and have nothing to do with the original exercise.
- An interesting modification was made to the following example: "Trace cultural, as well scientific, influences on the study of astronomy." The version adopted by the board deletes the text, "cultural". Why the deletion? Is it to avoid topics like Galileo and the efforts to censor scientific inquiry through history?
- An example directing the student to evaluate the benefits of burning fossil fuels to meet energy needs against the risks of global warming was changed to, "What temporary changes in the atmosphere are caused by the cars and trees in our community?" What was wrong with the original example?
- An entire benchmark describing the understanding of major concepts of biological evolution was completely deleted by the board. This was done even though the benchmark included the following important footnote: "Understand: *'Understand' does not mandate 'belief.'* While students may be required to understand some concepts that researchers use to conduct research and solve practical problems, they may accept or reject the scientific concepts presented. This applies particularly where students' and/or parents' religion is at odds with science. See *Teaching About Evolution and the Nature of Science, National Academy of Sciences, 1998, page 59*". It is clear that the committee of science educators that created the original version of the standards was very sensitive to a student's potential religious convictions. It is clear that the intent was to treat the student with respect. Yet this was not acceptable to the board. These types of off-hand wholesale deletion give chilling insight into the board majority's agenda.
- A section describing natural selection, as applied to behavior of organisms, was entirely deleted.
- A benchmark instructing that students should develop an understanding of the origin and evolution of the dynamic Earth system was changed to simply, *"Students shall understand the history of the Earth."* This change furthers the creationist notion that the earth has not changed significantly after "creation". Removal of the terms "dynamic" and "system" leave one asking why the benchmark is included at all.
- A section addressing the scientific subject of geologic time was modified to include the following item: "Example: Research all published data on the fossils present in the layers of the Grand Canyon." This is a setup for a popular creationist assertion that the Grand Canyon is 6,000 to 10,000 years old because there are apparently gaps or inversions in some areas of the so-called "geologic table". The use of wording "Research all published data" is interesting here. Why is that wording chosen rather than something more appropriate in scope, like "Research all published scientific data"?
- A section describing the implications of the "Big Bang" theory was changed completely. All references to the theory are removed, with the board simply substituting, *"Galaxies are found in clusters and the clusters of galaxies are grouped together into super clusters."*
- A section stating that natural resources limit the capacity of ecosystems to sustain populations was completely deleted.
- The board introduced the notions of micro and macro-evolution as separate and independent concepts. However, as the community of practicing scientists use the terms, they don't describe different biological mechanisms. They just denote a scope of influence in time. Sadly however, this almost artificial distinction in terms is of utmost importance to the creationist.
- In perhaps one of the most sweeping changes made by the board, the definition of **theory** was surgically changed to remove the requirement for being a *well-substantiated explanation*. This redefinition of the term "theory" downgrades what complies with the term to a level of a guess, or hunch. Worst of all it validates the layman's misconception about what scientists mean when they use the term.

Well as you can see, it's not just about local control. Reading the actual changes made by the board, co-authored by the Missouri-based creationist organization, [The Creation Science Association of Mid-America](#), is an eye-opening experience.

Read about these changes and more at:

<http://Welcome.To/KansasScienceStandards>  
and  
<http://www.kcfs.org/compare.html>

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