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At its March 25-27, 2009, meeting, the Texas state board of education voted to adopt a flawed set of state science standards, which will dictate what is taught in science classes in elementary and secondary schools, as well as provide the material for state tests and textbooks, for the next decade. Although creationists on the board were unsuccessful in inserting the controversial "strengths and weaknesses" language from the old set of standards, they proposed a flurry of synonyms — such as "sufficiency or insufficiency" and "supportive and not supportive" — and eventually prevailed with a requirement that students examine "all sides of scientific evidence." Additionally, the board voted to add or amend various standards in a way that encourages the presentation of creationist claims about the complexity of the cell, the completeness of the fossil record, and the age of the universe.

The proceedings were confusing and contentious, and it is understandable that journalists differed in their initial assessments of the significance of the vote: for example, the *Dallas Morning News* (March 28, 2009) [headlined](#) [4] its article as "Conservatives lose another battle over evolution," while the *Wall Street Journal* (March 27, 2009) [headlined](#) [5] its article as "Texas Opens Classroom Door for Evolution Doubts," and the *Austin-American-Statesman* (March 28, 2009) [played](#) [6] it safe with "State education board approves science standards." As the dust settled, though, NCSE's executive director Eugenie C. Scott — who was invited to testify before the board at its meeting — [commented](#) [7], in a March 30, 2009, press release, "The final vote was a triumph of ideology and politics over science."

"The board majority chose to satisfy creationist constituents and ignore the expertise of highly qualified Texas scientists and scientists across the country," Scott added. Among the organizations [calling](#) [8] upon

the board to adopt the standards as originally drafted by a panel of Texas scientists and educators were the American Association for the Advancement of Science, the National Association of Geoscience Teachers, the Paleontological Society, the National Association of Biology Teachers, and the Texas Association of Biology Teachers, as well as fifty-four scientific and education societies that endorsed a statement circulated by NCSE. The board's chair, avowed creationist Don McLeroy, responded by crying (video is available on [NCSE's YouTube channel](#) [9]), during the meeting, "Somebody's got to stand up to experts!"

Writing in *Salon* (March 29, 2009), Gordy Slack — the author of *The Battle Over the Meaning of Everything: Evolution, Intelligent Design, and a School Board in Dover, PA* (Jossey-Bass 2007) — [explained](#) [10] that after *Kitzmiller v. Dover*, "advocates of teaching neo-creationism have been forced to seek other ways into public science classrooms. Enter the 'strengths and weaknesses' strategy." After the creationist faction on the board failed to reinsert the "strengths and weaknesses" language, NCSE's executive director Eugenie C. Scott commented, "they had a fallback position, which was to continue amending the standards to achieve through the back door what they couldn't achieve upfront." Slack added, "Each of the amendments singles out an old creationist argument, strips it of its overtly ideological language, and requires teachers and textbook publishers to adopt it."

Rachel Courtland, a blogger for *New Scientist* (March 31, 2009), examined a case in point: the deletion of a reference in the standards to the age of the universe ("about 14 billion years ago"). As revised, the standards require students to learn "current theories of the evolution of the universe including estimates for the age of the universe," with the actual age absent. "Is the new standard an invitation for young-Earth proponents to teach students that the Earth and the universe beyond it is just a few thousand years old?" [asked](#) [11] Courtland, adding, "Some teachers could conceivably see it as an opening. According to a 2008 study [["Evolution and Creationism in America's Classrooms: A National Portrait"](#)] [12] from *PLoS Biology* 2008; 6 (5)], 16% of US science teachers believe humans were created by God in the last 10,000 years."

Texas groups defending the integrity of science education were dismayed at the result. Kathy Miller, the president of the Texas Freedom Network, Kathy Miller, [said](#) [13] in a March 27, 2009, statement, "The word 'weaknesses' no longer appears in the science standards. But the document still has plenty of potential footholds for creationist attacks on evolution to make their way into Texas classrooms. Through a series of contradictory and convoluted amendments, the board crafted a road map that creationists will use to pressure publishers into putting phony arguments attacking established science into textbooks." There is a historical precedent in the textbook adoption process from 2003, when creationists selectively applied the "strengths and weaknesses" language to try to dilute the treatment of evolution in the textbooks under consideration.

On his blog for the *Houston Chronicle* (March 27, 2009), Steven Schafersman of Texas Citizens for Science optimistically [commented](#) [14], "I think we can work around the few flawed standards," but lamented, "But the point is that there shouldn't be ANY flawed standards. The science standards as submitted by the science writing teams were excellent and flaw-free. All the flaws were added by politically unscrupulous SBOE members with an extreme right-wing religious agenda to support Creationism." Having attended (and blogged from) all three days of the meeting and observed the confusion and contention among the members of the board, he ruefully added, "this is not the way to develop educational policy in one of the most wealthy and powerful states in the most wealthy and powerful country in the world in the 21st century."

Even *The New York Times* (March 30, 2009) took notice of the plight of science education in Texas, editorially [commenting](#) [15], "This was not a straightforward battle over whether to include creationism or its close cousin, intelligent design, in the science curriculum. Rather, this was a struggle to insert into the state science standards various phrases and code words that may seem innocuous or meaningless at first glance but could open the door to doubts about evolution. ... At the end of a tense, confusing three-day meeting, Darwin's critics claimed that this and other compromise language amounted to a huge victory that would still allow their critiques into textbooks and classrooms. One can only hope that teachers in Texas will use common sense and teach evolution as scientists understand it."

The *Austin American-Statesman* (April 1, 2009) editorially [complained](#) [16], "Chairman Don McLeroy, Dunbar and others have turned the education board into a national joke. But when it comes to teaching Texas children, what they have done is not funny. Last week's discussion about shaping the teaching of science to allow doubts about evolution was surreal. Biology texts now must include 'all sides' of scientific theories ... The underlying point is that a board majority wants creationism to be part of the scientific discussion. And they got enough of a foot in the door with their language about teaching 'all sides' of scientific theories that publishers will have to include criticism of evolution if they want to sell science textbooks to Texas schools."

Detailed, candid, and often uninhibited running commentary on the proceedings is available on a number of blogs: [Texas Citizens for Science](#) [17]'s Steven Schafersman was blogging and posting photographs on the *Houston Chronicle's* [Evo.Sphere blog](#) [14], the [Texas Freedom Network](#) [18] was blogging on its [TFN Insider blog](#) [19], and NCSE's Joshua Rosenau was blogging on his personal blog, [Thoughts from Kansas](#) [20] (hosted by [ScienceBlogs](#) [21]). For those wanting to get their information from the horse's mouth, [minutes](#) [22] and [audio recordings](#) [23] of the board meeting will be available on the Texas Education Agency's website as well as on Tony Whitson's [Curricublog](#) [24]. NCSE's previous reports on events in Texas are [available](#) [25] on-line, and of course NCSE will continue to monitor the situation as well as to assist those defending the teaching of evolution in the Lone Star State.

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[9] <http://www.youtube.com/user/NatCen4ScienceEd>

[10] http://www.salon.com/env/feature/2009/03/28/texas_evolution_case/

[11] <http://www.newscientist.com/blogs/shortsharpscience/2009/03/universes-age-erased-from-texa.html>

[12] <http://dx.doi.org/10.1371/journal.pbio.0060124>

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