

EDUCATION

# Hearing on state school science standards rich in rhetoric

## Proposal to require teaching 'strengths and limitations' of theories met with mixed reaction.

By [Molly Bloom](#)

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As the State Board of Education weighed proposed changes to how science is taught in Texas public school classrooms during a meeting Wednesday, rhetoric and linguistic nuances dominated the discussion rather than talk of test tubes and, well, science.

The revised science standards will outline what will be taught about science to every public school student in the state. Some educators speaking at a hearing during the meeting questioned the organization and depth of what students would be required to learn, but most of the public discussion focused on changes in how evolution and the scientific process would be taught.

A committee of science teachers and curriculum experts had recommended that teachers not be required to teach ideas "based upon purported forces outside of nature" and the "strengths and weaknesses" of all scientific theories.

The strengths and weaknesses language has been included in the state curriculum since 1988, and critics say it has opened the door to teaching creationism alongside evolution. Those who believe that the strengths and weaknesses language should remain say it encourages open discussion and critical thinking in classrooms.

However, the board last month appointed a six-member panel of experts to review the revised curriculum that included one of the leading proponents of intelligent design, which holds that the origins of the universe stem from a higher power, and two scientists who have said they have doubts about the theory of evolution.

A new version of the proposed curriculum released this week effectively reintroduced the requirement to teach the weaknesses of scientific theories by mandating that students "analyze and evaluate strengths and limitations" of scientific explanations.

"On the face of it ... (teaching the weaknesses) doesn't actually say anything about religion. But it's very

clear to a lot of people that this opens the door and allows people to start injecting supernatural things into science classes," Houston elementary school teacher Max Brodsky told the board, which plans to adopt the new standards in March.

Publishers use the state's curriculum standards to create new science textbooks, which could be in Texas classrooms as early as 2012.

Board member Ken Mercer, who represents counties including Blanco, Caldwell, Hays and part of Travis, said such language supports academic freedom.

"These guidelines do not force you to teach anyone's favorite religion," Mercer said.

Baylor University chemistry professor Charles Garner, a member of the six-member expert panel who was nominated by board members Gail Lowe and Terri Leo, signed a petition, "A Scientific Dissent from Darwinism," that was developed by the Discovery Institute, a group that promotes the idea that life is a result of an intelligent creator. (Stephen Meyer, a senior fellow and vice president of the Discovery Institute, is also on the panel.)

In his review of the revised curriculum, which will be subject to a second public hearing in January, Garner wrote: "While it is true that 'science classes should only teach science' and that non-science or religion should not be taught in science classes, the plausibility of and evidence for the more speculative scientific theories must be critically evaluated."

Almost 90 people signed up to speak at Wednesday's hearing. After a request by board Chairman Don McLeroy to avoid both applause and jeers, the crowd was fairly subdued.

But the speakers didn't hold back in their comments to the board.

Southern Methodist University anthropology professor Ronald Wetherington, a committee member who was nominated by board members Patricia Hardy and Geraldine Miller, said Wednesday that specifically requiring the teaching of theories' strengths and weaknesses would be confusing.

Wetherington said simply requiring students to learn how to analyze and evaluate scientific theories covers the same ground. "The more words you use, the more confusing it can get," he said.

Board member Cynthia Dunbar, whose district includes Bastrop and Williamson counties and part of Travis County, said the language might be helpful to teachers without advanced science educations.

"For those who might not have your training, it might give direction," she said.

But Texas Citizens for Science President Steven Schafersman told the board that the "strength and weaknesses" language was unscientific and that most students don't have the expertise to consider both strengths and weaknesses effectively.

"I suggest you let scientists write the (curriculum standards) properly and accept them," he told the board.

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