Re: National Association of Biology Teachers

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- *From*: "Malcolm" <regniztar@xxxxxxxxxxxxx>

- *Date*: Wed, 11 Jan 2006 13:51:51 −0500 (EST)

<whitesickle@xxxxxxx> wrote
>
> NABT's Statement on Teaching Evolution
>
Creationism per se is off−topic here, but teaching evolution is topical enough. It is a sign of the times that the statement is dominated by considerations of how to respond to creationists' demands.

[moderator's note: I'm uncomfortable with this thread, of course. It reminds me of discussions in the Harry Potter books about "He who must not be named" −− we're doing the same thing here with creationism. I do agree with much of the sentiment, but I'm concerned that we're liable to step well over the line in this discussion. Please consider talking this to talk.origins if you want to push in that direction. −JAH]

Firstly, it doesn't make any sort of sense to teach biology above primary school level without mentioning evolution. Any more than you can teach physics without mentioning atoms.
>
> Explanations or ways of knowing that invoke
> non−naturalistic or supernatural events or beings, whether called
> "creation science," "scientific creationism," "intelligent
> design theory," "young earth theory," or similar designations,
> are outside the realm of science and not part of a valid science
> curriculum.
>
This just begs the question. There are two really important unanswered questions in the natural sciences, one is "why is there no evidence of God in the natural world?" and the other is "why do we have no good theory of human behaviour?"

If schoolchildren can appreciate that these questions are important, and that they reamin unanswered, then we have done a pretty good job of explaining the philosophical importance of evolutionary theory.
>
> The Nature and Methods of Science
>
> · Scientists do science by asking questions, proposing and
> testing hypotheses, and designing empirical models and conceptual

> frameworks for research about natural events. Scientists use both
> observations and inferences to gather evidence and draw conclusions
> respectively; inferences are logical conclusions based on observations.
> Conclusions generate additional hypothesis testing, which yields
> further observations and inferences. Theories are ultimately proposed
> to explain observations and inferences, predict consequences, and solve
> scientific problems.
>
> · In science, a theory is an extensive explanation developed
> from well−documented, reproducible sets of experimentally−derived data
> from repeated observations of natural processes. Science does not base
> theories on untestable dogmatic proposals or beliefs.
>
> · Scientific theories can be−and often are−modified and
> improved as new empirical evidence is uncovered. Science is a
> constantly self−correcting endeavor to understand nature and natural
> phenomena.
>
To some extent you have to teach children what ought to be rather than what is. Science is done by humans.
>
> In fact, evolution can be defined
> as any change in the frequency of alleles within a gene pool from one
> generation to the next.
>
Evolution means cumulative changes over time. The above gibberish definition should not be taught.
>
> Teaching the principles and mechanisms of evolution across the
> biology curriculum−−from molecular and cellular to organismal and
> ecological levels−−promotes a rational and coherent scientific account
> of biology.
>
Absolutely
>
> Science and religion differ in significant ways that make
> it inappropriate to teach religious beliefs in the science classroom.
> To contrast science with religion is not the role of science or science
> education.
>
Absolutely not. We can make a distinction between an empirical proposition (tigers are rare) and a metaphysical proposition (tigers should not be allowed to go extinct). In biology we deal mainly with the first type and in religious studies mainly with the second, but not exclusively by any means. Truth cannot contradict truth, so the story of Adam and Eve cannot be true in religious studies but false in biology. The assertion that real theologians make, that the Adam and Eve story really means that all men are sinful, similarly cannot be true in religious studies and false in biology.
>
> Teachers should respect diverse beliefs. Science teachers
> can, and often do, hold devout religious beliefs, accept evolution as a

> valid scientific theory, and teach the theory's mechanisms and
> principles. Students can maintain their religious beliefs and learn the
> scientific foundations of evolution.
>
This is a very difficult one. Where the adults have no consensus, what do you tell the children? At the moment we are in the absurd position of not officially believing in sin, and telling children that racism is sinful.
I think we have to say that liberal Christianity (Catholicism, Episcopalianism, Presbyterianism, Methodism) and Reform Judiasm are compatible with biology, whilst Islam, Orthodox Judaism, and literalist Christianity are not. Atheism is also compatible with biology. I don't know about Eastern religions like Shinto. The problem is that a lot of perfectly responsible, adequate parents are of these incompatible religions, and don't want their children told that they are false.

But a mealy mouthed, "we must respect a Jehovah's Witness as much as a theologian" won't do. The main problem with science education is not that young people believe evolution to be false, it is that they beleive it to "be true for you, but don't try to say its true for anyone else".

> In the supporting
> documentation that accompanies the bill, the NCLB contains a suggestion
> that "... the curriculum should help students to understand the full
> range of scientific views that exists, why such topics may generate
> controversy, and how scientific discoveries profoundly affect
> society."
>
This sounds great. The problem is that there is no scientific controversy which is accessible to schoolchildren. This isn't true of all academic fields, for instance you can teach children about missing words in Anglo−Saxon documents, and within a few weeks of learning the basic grammar they will be able to make sensible suggestions about how they should be filled in. It just so happens that there isn't a science at that stage of development.
(Is this totally true − could we find controversies, maybe not well known outside their fields, that would be suitable?)

>
> All teachers and administrators should be mindful of these legal
> issues, remembering that the law, science and NABT support them as they
> appropriately include the teaching of evolution in the science
> curriculum.
>
What a terrible conclusion.
A teacher's responsibility is to the welfare of the children entrusted to his care, and that overrides even the law.

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- ***Follow−Ups***:
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    - *From:* g

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