

Ladies and Gentlemen,

On behalf of the authors of the “Minority Report” (the document that was the focus of hearings in May), we provide the following comments on the McRel analysis of the Kansas Science Standards (dated October 2005). We specifically address those aspects of Draft 2 that touch on changes suggested by the Minority Report (hereafter referred to as “the Changes”).

The Changes that received criticism appear under Section VI regarding “*Clarity*,” Section VII, regarding “*Guidance*,” and VIII, regarding “*High Quality*.”

Although we have the highest regard for McRel, we should point out that they did not indicate in their report that they reviewed the transcripts of the three days of hearings held in May regarding those changes or otherwise attended the hearings to understand the scientific validity of the suggestions and their educational propriety. All of the expert witnesses were asked to comment specifically on these issues, and we are not aware of any negative comments. In addition, those who have opposed the idea of providing students with a more comprehensive discussion of evolutionary theory were provided with ample opportunity during the hearings to both cross examine those witnesses and to provide opposing testimony. The record shows a complete silence in that regard. Given the fact that the McRel report does not take this information into consideration in the preparation of their report, we believe that its conclusions about the Changes should be accorded little or no weight.

1. In Section VI, “Clarity,” the McRel criterion rates items based on:

- whether the item communicates “what it is that students should know and be able to do”
- if it is “clearly written, consistent in scope and free from jargon.”
- whether the items were “confusing” because “they could not be accurately evaluated on other criteria.”

McRel identified the following Changes as constituting “*Confusing or Unclear Statements*.”

8-12, Pg 72: “The sequence of nucleotide bases within genes is not dictated by any known chemical or physical law.”

Unfortunately McRel does not explain what it is about this statement is confusing and unclear. In all respects it appears to actually satisfy the three criteria for establishing “clarity.” Accordingly, and given the ample testimony from numerous experts as to the scientific validity and educational propriety of this Change, we have no suggestion for improving this Change.

8-12, Pg 74: “Biological Evolution postulates an unguided natural process that has no discernable direction or goal.”

A group of 38 Nobel Laureates recently issued a letter to the Board that agrees that this is a factual statement. Given that endorsement, the testimony at the Hearings, and the lack of any specific criticism of this statement, we have no suggestions for improving it.

“8-12. Pg 98:AS Science that is truly open-ended, and that allows evidence rather than preconceptions to guide explanation is the strongest and allows for constant refining and improvement of its explanations.”

Again, the criticism does not specify how this statement is not clear. The text of the Change appears to explicitly satisfy the criteria for clarity. Terms such as “open-ended,” “evidence” and “preconception,” are not “jargon.” They have very clear and well defined meanings. The statement details two characteristics of science that “guide” the formation of explanations and that “allow” for improvement: open-endedness – “not having fixed limits” and the use of “evidence” rather than “preconceptions.” Both of these characteristics do in fact advance both the development and improvement of explanations. Accordingly, we believe the statement is very clear and precise and one that specifies what students should “know.”

2. In Section VII, “Guidance,” the McRel criteria states that items should:
- “provide a curricular focus for teachers.”
 - Provide “a guide.....that allows for differences in local implementation”
 - “describe what students should learn.”
 - Show “a strong link between the indicator and the supporting material”

Under this section McRel criticized the following items of additional specificity as “undercutting” the indicator that “biological evolution, descent with modification, is a scientific explanation for the history of the diversification of organisms from common ancestors.” The additional specificity contains information that supports that explanation as well as evidence that has caused scientists to question it.

8-12, Page 74: “.....However, in many cases the fossil record is not consistent with gradual, unbroken sequences postulated by biological evolution.”

And:

“The view that [description of macroevolution].....has been challenged in recent years by [i, ii, iii].

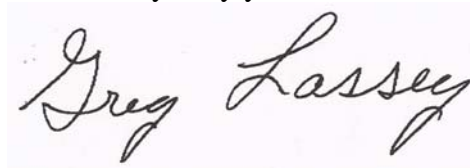
By informing students of both sides of this scientific controversy, students will attain a higher level of “understanding,” about the explanation. To “understand” is to “perceive the meaning of; grasp the idea of; comprehend.” By providing more information about this very complex idea, the additional specificity aids “understanding,” rather than undercuts it.

3. In section VIII, “High Quality,” McRel assessed the “quality” of standards in relation to sources listed by McRel. A number of the Changes were assessed low because they did not appear in these documents.

The difficulty with this conclusion derives from the fact that McRel did not have all the relevant documents against which to compare the standards. Specifically, they either did not have or did not attend to the testimony of 23 expert witnesses provided during the hearings in May. The stated reason for those hearings was to assess the actual quality of the Changes given the inherently controversial nature of the subject matter. The un-rebutted testimony of those witnesses actually testifies to the high scientific and educational quality of the changes.

In conclusion we do not believe the external review provides any basis for any revision to the Changes.

Very truly yours,

A handwritten signature in cursive script that reads "Greg Lassey". The signature is written in black ink on a light-colored background.

Greg Lassey, MS

A handwritten signature in cursive script that reads "William S. Harris". The signature is written in black ink on a light-colored background.

William S. Harris, PhD

cc: Steven B. Case, PhD
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Minority Authors