

Effects of a History of Life Course on Student Views of Science

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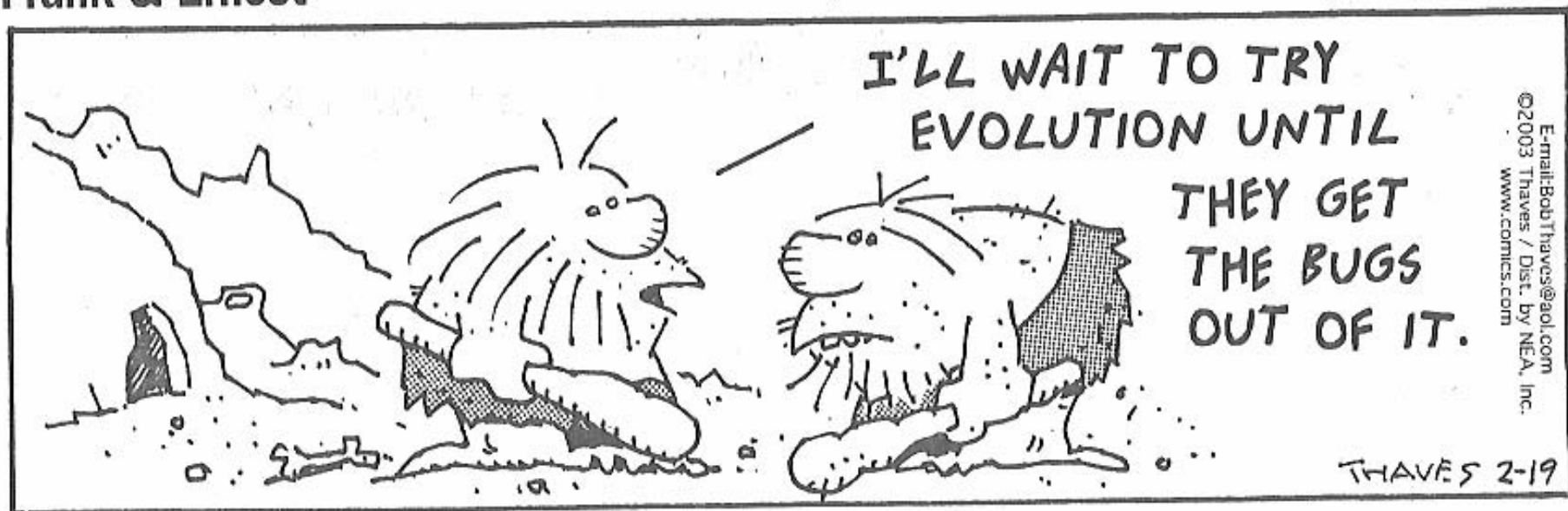
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Frank & Ernest



I'LL WAIT TO TRY
EVOLUTION UNTIL
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THAVES 2-19

Abstract (1)

- A student's view of science is a significant component of the student's overall worldview.
- This fact affects the science teaching.
- Students at Liberty University have been pre & post tested in the required *History of Life* course using the CWS.

Abstract (2)

- This instrument evaluates student views of science related to the creation/evolution controversy.
- This presentation will highlight some of this work.
- Implications and findings for science teachers and educators will be emphasized and explored.

Big Question????

- Interesting problem – Based on the science education literature, evolution courses do not change student attitudes!
- When students are taught evolution why are they not believing it?
- Why is this the case?



Student Evolution Beliefs

- Evolutionist literature related to creation/evolution attitudes shows:
 - That very little change occurs in students view of evolution when evolution is taught
 - That there is a lack of understanding of what the Creationist believe

Literature

- Lawson, A. E., & Weser, J. (1990). The rejection of nonscientific beliefs about life: Effects of instruction and reasoning skills. *Journal of Research in Science Teaching*, 27, 589-606.
- Lawson, A. E., & Worsnop, W. W., (1992). Learning about evolution and rejecting belief in special creation: Effects of reflective reasoning skill, prior knowledge, prior belief and religious commitment. *Journal of Research in Science Teaching*, 29(2), 143-166.
- Lawson, A.(1999). A scientific approach to teaching about evolution and special creation. *The American Biology Teacher*, 61(4), 266-274.
- Matthews, D. (2001). Effect of a curriculum containing creation stories on attitudes about evolution. *The American Biology Teacher*, 63(6), 404-409.

Literature (continued)

- McKeachie, W., Lin, Y., & Strayer, J. (2002). [Creation vs. evolution beliefs: effects on learning biology](#). *The American Biology Teacher*, 64(3), 189-192.
- Rutledge, M. L., and Warden, M. A. (2000). [MATE](#), *American Biology Teacher*, 62(1), 23-31.
- Sinclair, A., & Pendarvis. M. (1997/1998). [Evolution vs. conservative religious beliefs](#). *Journal of College Science teaching*, 27(3), 167-170.
- Sinclair, A., Pendarvis. M., & Baldwin, B., (1997). [The relationship between college zoology students' beliefs about evolutionary theory and religion](#). *Journal of Research and Development in Education*, 30(2), 118-125.

Literature

- Bergman, J. (1999). The attitude of various populations toward teaching creation and evolution in the public schools. *Creation Ex Nihilo Technical Journal*, 13(2), 118-23.
- Brazelton, E. W., Frandsen, J. C., McKnown, D. B., & Brown, C. D. (1999). Interaction of religion and science: Development of a questionnaire and the results of its administration to undergraduates. *College Student Journal*, 33, 623-628.
- Blackwell, W., Powell, M. J, & Dukes G. H. (2003). The problem of student acceptance of evolution. *Journal of Biological Education*, 37(2), 58-68.

Big Question Alternative????

- The alternative would be creation.
- What happens if you teach creation?



Answer

- There is a dramatic shift toward a stronger creation worldview

Results

- Six semesters of data
- Close to 1000 students
- Shows a course from a creationist perspective strengthens a students creationist worldview
- This includes both theological and scientific issues

A Methodological Problem

- Measurement of creationist attitudes in the evolutionary literature is being misrepresented
- This is repeated over and over
- Seems to have started here:
- Lawson, A. E., & Weser, J. (1990). The rejection of nonscientific beliefs about life: Effects of instruction and reasoning skills. *Journal of Research in Science Teaching*, 27, 589-606.
- Lawson, A. E., & Worsnop, W. W., (1992). Learning about evolution and rejecting belief in special creation: Effects of reflective reasoning skill, prior knowledge, prior belief and religious commitment. *Journal of Research in Science Teaching*, 29(2), 143-166.

Examples from the literature

- **Landforms like the Grand Canyon were created by God and have not changed since then.**
- **The living world is being controlled by a force greater than humans**
- **There are certain types of living things (such as dinosaurs) that once lived on the Earth but no longer exist.**



Examples Continued

- **Fossils were intentionally put on the Earth to confuse humans.**
- **All events in nature occur as part of a predetermined master**



Application for Science Teachers

- Not saying that creation should be taught
- However teachers should understand what creationists really believe
- Evolution should not be taught dogmatically
- We suspect that this is a factor in the lack of belief in evolution teaching
- Part of the issue is that some science teachers do not really know what creationist believe
- Evidence is found the Lawson and related literature
- Also supported by the fact that LU students do not believe what Lawson says they should believe

To give feedback or get a copy of these slides and additional materials such as copies of the surveys and instruments discussed contact:

sdeckard@liberty.edu Please mention the TN AETS conference the subject line.

Thanks

