Unspeakable, forbidden, taboo: Conversations about evolution in the American Southeast

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The Evolution Taboo in Southern Culture

In Southern culture, few things are more representative of the nature of taboo than the idea that man descended from the apes or is anything less than the product of special creation.
The Significance of “Place”

• Southern culture frames all understandings of teaching and learning in the region
• Fundamental Christian literalism directly impacts these experiences
• Understanding of the issue requires understanding of the conflicting culture and how to navigate
Evolution Education in Context

• Students in the south are 84% less likely to receive meaningful instruction in evolution.
• Students in the south are 10x more likely to have no instruction regarding evolution.
“Evolution was looked upon like it was a ridiculous idea. Like you were unintelligent if you actually could possibly believe that human beings came from monkeys.”
“To even consider the fallibility of belief is equate to turning your back on your family, community, and faith.”
Acceptance, belief, and minding the gaps

The essence of science is that it is always willing to abandon a given idea for a better one; the essence of theology is that it holds its truths to be eternal and immutable.

-H. L. Mencken
We are at war for scientific literacy

Science is not challenged with proving or disproving the existence of the supernatural; it is the very nature of science that supernatural explanations cannot be applied to physical events.
Regardless of their beliefs, it matters that all people are scientifically literate.

To reach that end, we have to evaluate our approach and take note of what works and what doesn’t.
Southern (R)evolution

It is not the strongest of species that survives, nor the most intelligent, but the one that is most responsive to change.

-Charles Darwin, 1809
Evolutionary Underpinnings

- Public Perceptions
- First-tier comparative
- Anti-evolution thinking
- Evolution Education
What research highlights

- Knowledge, understanding & beliefs
- Worldview, positionality, and openness
- Semantics and differentiation
- Misunderstandings, misconceptions, and misinformation
## Public Evolution

<table>
<thead>
<tr>
<th>Position</th>
<th>Range</th>
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</thead>
<tbody>
<tr>
<td>Creationism</td>
<td>&gt;45%</td>
</tr>
<tr>
<td>Theistic Evolution</td>
<td>31-40%</td>
</tr>
<tr>
<td>Secular Evolution</td>
<td>&lt;20%</td>
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</table>

Gallop, 2014; 1982-2014)
National UG Study on Evolution

• Purpose
• Participants
• Measures
• Analysis
## Demographics

<table>
<thead>
<tr>
<th>Gender</th>
<th>Race</th>
<th>Level</th>
<th>Percentage</th>
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</thead>
<tbody>
<tr>
<td>Female</td>
<td>African American</td>
<td>Freshman</td>
<td>9%</td>
</tr>
<tr>
<td></td>
<td>65%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>Asian</td>
<td>Sophomore</td>
<td>10%</td>
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<tr>
<td></td>
<td>34%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Non-Binary</td>
<td>Caucasian</td>
<td>Junior</td>
<td>71%</td>
</tr>
<tr>
<td></td>
<td>1%</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Hispanic</td>
<td>Senior</td>
<td>6%</td>
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<tr>
<td></td>
<td>1%</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>Native American</td>
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<td>.7%</td>
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<tr>
<td></td>
<td>Pacific Islander</td>
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<td>.3%</td>
</tr>
<tr>
<td></td>
<td>Other</td>
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<td>3%</td>
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</table>
## Cycle One

<table>
<thead>
<tr>
<th>Measure</th>
<th>Region</th>
<th>Nation</th>
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<tbody>
<tr>
<td>Evolution Acceptance</td>
<td>58.0%</td>
<td>72.6%</td>
</tr>
<tr>
<td>Content Knowledge (ECK)</td>
<td>51.2</td>
<td>43.1</td>
</tr>
<tr>
<td>Nature of Science (NOS)</td>
<td>52.4</td>
<td>46.6</td>
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</table>

n=1732  
n=5856  07/16
# Considering Expertise

<table>
<thead>
<tr>
<th>Measure</th>
<th>PSSTs</th>
<th>UGSs</th>
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<tbody>
<tr>
<td>Evolution Acceptance (GAENE)</td>
<td>70.0%</td>
<td>72.6%</td>
</tr>
<tr>
<td>Content Knowledge (ECK)</td>
<td>37.6</td>
<td>43.1</td>
</tr>
<tr>
<td>Nature of Science (NOS)</td>
<td>65.5</td>
<td>46.6</td>
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</table>

n=146  
Glaze, Goldston, & Dantzler 2015  
n=5856  
Pulled 07/2016
Discussion

• Evolution represents the greatest challenge in biology education today
• Grade school experiences with evolution tend to be inaccurate, weak, or absent.
• Even among professional level students, there are persistent misconceptions and misunderstandings of evolution and how science works.
• There are identified areas of need to impact public acceptance.
• Worldview must be taken into account for greater impact.
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Select References


