Citizen response to attacks on science education

Josh Rosenau
National Center for Science Education
Citizen response to attacks on science education or... Help, there's science denial in my schools!

Josh Rosenau
National Center for Science Education
17,000 school districts
1 in 8 HS science teachers
1 in 8 HS science teachers promote creationism
Denialist mailing reported
Likelihood of a problem
Case study 1: Statewide textbooks

• 15 elected members approve textbooks for use statewide. The books submitted are fine.
• 6 committed votes for creationist changes
• 6 committed votes against
• 3 unsure
• You are represented by a swing vote.
• What can you and your neighbors do to influence your board member?
Case study 2: Climate denial video

- Friend mentions her kid’s 8th grade science teacher showed “Unstoppable Solar Cycles”
- Movie misrepresents science, scientists
- Claims sun, not humanity, drives climate change
- Was mailed to teachers by advocacy group
- You don’t have kids in the schools.

What can you do to help your friend and stop kids from being misinformed?
Recon
Contact NCSE
Recon
Recon

Who?
What?
When?
Where?
Why?
How?
Set clear goals
Set clear goals

• What will winning mean ideally?
Set clear goals

• What will winning mean ideally?
• What is the worst you’d accept?
Set clear goals

• What will winning mean ideally?
• What is the worst you’d accept?
• What is the core principle?
Set clear goals

• What will winning mean ideally?
• What is the worst you’d accept?
• What is the core principle?
• Is there a longer-term goal?
Set clear goals

- What will winning mean ideally?
- What is the worst you’d accept?
- What is the core principle?
- Is there a longer-term goal?
- What is the timeline?
Set clear goals

• What will winning mean ideally?
• What is the worst you’d accept?
• What is the core principle?
• Is there a longer-term goal?
• What is the timeline?
• Who can enact the change?
Decision makers
Decision makers

- Individuals, not institutions
Decision makers

- Individuals, not institutions
- What are their limits?
Decision makers

• Individuals, not institutions
• What are their limits?
• Where and when do they act?
Decision makers

• Individuals, not institutions
• What are their limits?
• Where and when do they act?
• What do they want?
Decision makers

• Individuals, not institutions
• What are their limits?
• Where and when do they act?
• What do they want?
• Who do they trust or listen to?
Decision makers

• Individuals, not institutions
• What are their limits?
• Where and when do they act?
• What do they want?
• Who do they trust or listen to?
• (Who do they mistrust?)
Strength in numbers

• What do they want?
• Who do they trust or listen to?
• (Who do they mistrust?)
If you're in a coalition and you're comfortable, you know it's not a broad enough coalition.

—Bernice Johnson Reagon

Wednesday, December 4, 2013
Who should you recruit?
Choose leaders wisely
Plan a strategy

Based on the Midwest Academy’s “Strategy Chart”
Plan a strategy

Goals

Long-term

Intermediate

Short-term (stepstones)

Based on the Midwest Academy’s “Strategy Chart”
## Plan a strategy

<table>
<thead>
<tr>
<th>Goals</th>
<th>Organizational Concerns</th>
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<td>Your needs (budget, allies, etc.)</td>
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Based on the Midwest Academy’s “Strategy Chart”

Wednesday, December 4, 2013
## Plan a strategy

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<td>• What do they need?</td>
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<td></td>
<td>Your needs (budget, allies, etc.)</td>
<td>• Who will oppose you?</td>
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<td>• Why?</td>
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<td>• What power do you have over the target?</td>
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<td>Short-term (stepstones)</td>
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<td>Who will decide?</td>
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<td>Who will shape their decision?</td>
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<td>How do you exert power over them?</td>
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<td>Long-term</td>
<td>Your assets</td>
<td>• Who may be with you?</td>
<td>Who will decide?</td>
<td>Vary by target and goal</td>
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<tr>
<td>Intermediate</td>
<td>Your needs (budget, allies, etc.)</td>
<td>• What do they need?</td>
<td></td>
<td>Build on your power</td>
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<td>Short-term (stepstones)</td>
<td>Your limits (to overcome)</td>
<td>• Who will oppose you?</td>
<td>Who will shape their decision?</td>
<td>Make sense to allies</td>
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Wednesday, December 4, 2013
Start quietly, nicely
Start quietly, nicely

You can always escalate, but it’s hard to ramp down
How scientists think they win
While creationists...

For the last time, stop following me! I'm a creationist.
"A good tree cannot bring forth evil fruit; neither can a corrupt tree bring forth good fruit."
MATTHEW 7:18
"A good tree cannot bring forth evil fruit: neither can a corrupt tree bring forth good fruit."
MATTHEW 7:18
Science denial is wrong
Science denial is harmful
Science denial is not irrational
Science denial is driven by personal identity and deep, real, important concerns.
SCIENCE, EVOLUTION, AND CREATIONISM
Strongest messages in both rounds of research

- Invoke the role of evolution in making advances in medicine and curing diseases
- The compatibility of religious faith and acceptance of evolution
- One’s personal religious viewpoints should not be imposed on public school students

A key framing point

Science class should help students to understand how science works and how scientists do their jobs. Evolution is a core scientific principle that is foundational to many areas of science and helps scientists make technological developments, like curing disease.
Shared values
Shared cultural background
Be personal
Plan for tomorrow
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<td>Textbooks adopted</td>
<td>Have local connections, scientific expertise</td>
<td>Science teachers, university community, secular/civil liberties groups, who else?</td>
<td>State board of education member</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Need broader network, $, political/media savvy</td>
<td>Tea party groups, conservative megachurch</td>
<td>Major donors, voters</td>
<td>How do you exert power over them?</td>
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- What power do you have over the target?
- What power do your foes have?

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