

ED31A-0274. Assessing the Credibility of Climate Science Information: A Roadmap for Educators

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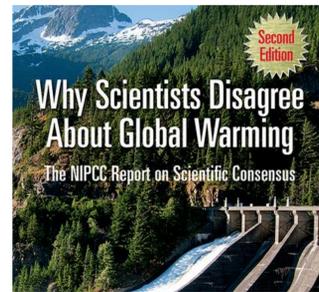
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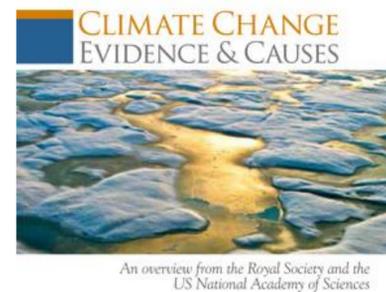
Abstract: Although there is an overwhelming scientific consensus that humans are driving modern day climate change, a significant portion of Americans are still not convinced. One reason for this gap in understanding results from a large body of misinformation that is easily accessible by students and educators. Here the author presents an effective teaching model to allow students to assess the credibility of organizations and their authors who publish climate science information aimed toward the general public.

Methodology:

1st day of class MET103 Global Climate Change students provided Heartland Institute's book titled *Why Scientists Disagree About Global Warming* and asked to answer four questions. Students also handed copy of National Academy of Sciences & the Royal Society's publication *Climate Change Evidence and Causes* and asked to answer same four questions. Via series of three homework assignments students validated: 1) membership in each organization by visiting official website 2) credibility of authors using SCOPUS database search, 3) level of scientific consensus on human cause of climate change. When completed, students asked to answer the same two surveys.



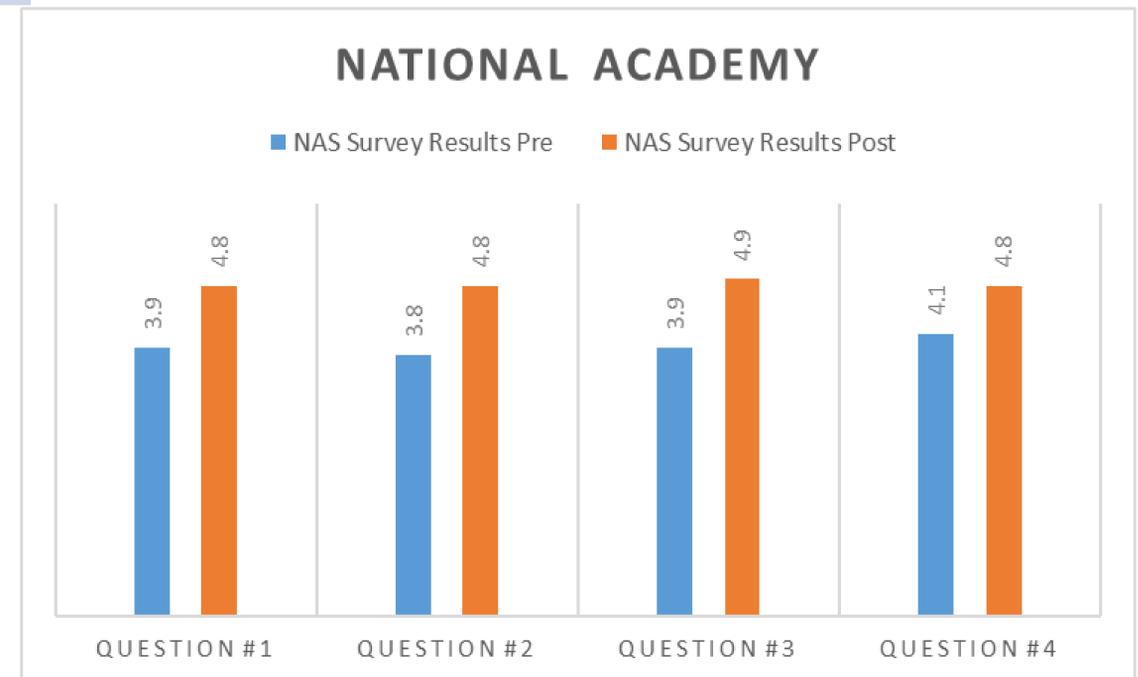
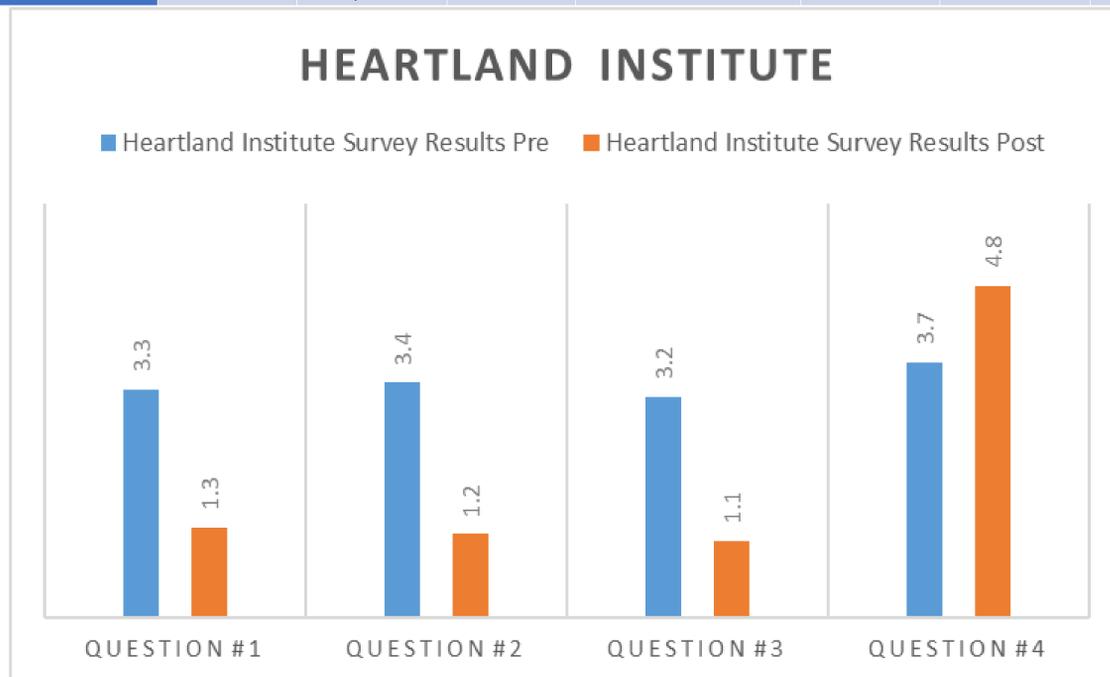
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Results: (n=41)

National Academy of Sciences				Heartland Institute			
Author Name	# Pubs	# Citations	h-index	Author Name	# Pubs	# Citations	h-index
Inez Fung	143	18,193	67	Craig D. Idso	12	376	8
Benjamin Santer	111	9,464	50	Robert M. Carter	93	2,759	31
Susan Solomon	270	19,054	70	S. Fred Singer	145	639	14
Kevin Trenberth	223	31,110	76				
John Walsh	184	9,749	52				
Don Wuebbles	184	6,708	39				

National Academy of Sciences			Heartland Institute		
Author Name	# since 2012	YES/NO	Author Name	# since 2012	YES/NO
Inez Fung	21	YES	Craig D. Idso	2	NO
Benjamin Santer	26	YES	Robert M. Carter	3	NO
Susan Solomon	51	YES	S. Fred Singer	2	NO
Kevin Trenberth	45	YES			
John Walsh	42	YES			
Don Wuebbles	45	YES			



5 = Strongly Agree 4 = Agree 3 = No Opinion 2 = Disagree 1 = Strongly Disagree

Q1: Membership in the organization requires a rigorous review process by experts in the scientific field

Q2: The authors of the publication are considered by the scientific community to be climate change experts

Q3: I would trust climate science information from this organization

Q4: There exists a strong consensus among scientists that humans are the primary cause of the observed warming since 1950

Key Findings:

- Students' opinion of the credibility of Heartland Institute, its authors, and its consensus position declined considerably. All agreed Heartland Institute and its authors not reliable source for climate info.
- Students had a high opinion of the credibility of the NAS and its authors on entering course but shifted higher after assignments. All agreed NAS and its authors very credible source for climate info.
- Students understanding of the level of scientific consensus improved; surprisingly high even while holding book titled *Why Scientists Disagree About Global Warming* on 1st day of class