

SAMPLE HONORS IN ACTION PROJECT

To the Seventh Generation: Inheritance and Legacy

How might students evaluate the inherited body of knowledge around climate change to create a legacy of information literacy for students to come?

1. Provide a brief abstract or summary of your Honors in Action project including

- a. academic research into and analysis of sources related to the Honors Study Topic;**
- b. action that addresses a need in your community that was discovered through your research and analysis into the Society's current Honors Study Topic, and;**
- c. the impact of your project.**

(Note: Recommended word count for the abstract is no more than 300 words.)

Evaluating scientific writing to determine which of two opposing viewpoints is correct can pose challenges to undergraduate students. We choose to examine how literature connected to climate change includes multiple viewpoints around seemingly established scientific facts and principles. College students and community members at-large must understand that while we may disagree on certain topics, there needs to be some authoritative method to identify truth in writing, which may facilitate better and more open communication within society. As we examine the Honors Study Topic, *To the Seventh Generation: Inheritance and Legacy*, we felt this best fit into Theme 4: Expressions of Truth. Our project's impact was to help people better understand how to vet a source to determine if its content could be supported by accepted science or was not supported with the scientific rigor used to reach those conclusions. We examined several sources concerning whether or not they agreed with the accepted science on global climate change and evaluated what types of sources were more apt to utilize citations and bibliographic information to support their points. To help the campus community and local citizens gain a better understanding of how to identify quality versus marginal sources, we held a workshop in which participants were broken into sequestered groups, asked to evaluate two questions as they related to climate change, collect sources, then reconvened to examine and discuss those sources. Results of the workshop were positive, and participants came away from it with an enhanced understanding of how science is properly communicated, and what it takes to identify accepted scientific writing.

2. What theme in the current Honors Program Guide did your chapter focus on?

Theme 4: Expressions of Truth

3. Summarize your research objectives. What did your chapter set out to accomplish in terms of its research?

Research Component Objectives:

- Using climate science as the focal point, collect and examine works both supporting the most widely-held scientific positions on global climate change, as well as those that do not agree with the mainstream scientific positions concerning the same.
- Categorize the major arguments that both support and argue against climate change science; attribute sources to each of the main categories.
- Examine the validity of the sources based on common standards in academia; create categories for argument-source groups that will allow us to understand what institutions support mainstream scientific fact and what institutions argue against the same.

4. Describe your academic research into the Honors Study Topic, your research question(s), your analysis of your research findings, and your research conclusions.

Our major research questions focused on how to: 1) better understand what is creating the divide between established science reporting and arguments against scientific findings, and; 2) how understanding the division, in terms of its source, can help us better determine what constitutes a high-quality and academically-acceptable source. Beginning with a faculty member in the science department and the research librarian, we sought to collect seminal works regarding climate change in order to understand the currently-accepted arguments on the subject. The professor and librarian assisted us in learning how to use the library's database to identify literature on the topic. We then decided on several phrases to use in general Internet searches (non-academic databases) such as "arguments against climate change," "differing views on climate science," and "climate science debates." We used ProCon.org, too, because the site offered arguments from varied sides about whether human activity is primarily responsible for climate change. This allowed us to build a library of sources that typically argued against the mainstream positions on climate science in general and global climate change specifically (133 sources in total). Source material with annotations was stored using a bibliography creation platform for easier cataloging and referencing, and later, citing in APA format for writing and editing the HIA Hallmark Award entry.



We broke the research team into two groups, with each group responsible for reading each of the works collected (i.e., all researchers read all works). Then, we decided into which group the work belonged: 1) aligned with the currently accepted science on climate change, or 2) in opposition to the same. We then reconvened and compared lists to make a final determination into which category each work belonged. In cases where we were not in agreement (13), we met with the science professor to help explain the position of the author more clearly, and again attempted to categorize the work. In 10 of the 13 cases we were able to do so, and the three (3) remaining papers that could not be agreed upon were removed from further consideration, leaving 130 works in the study. In total we identified 102 (of 130, 78.4%) publications that aligned with mainstream science and 28 (of 130, 21.6%) that did not. Then, within each category, we determined whether the source was: 1) an academic (peer-reviewed) journal; 2) a book; 3) a government report; 4) a non-profit (private) agency report; 5) a newspaper or other media outlet piece, or; 6) a "personal" webpage or blog.

5. List the eight academic/expert sources that were most enlightening regarding multiple perspectives of the Honors Study Topic theme you selected. Briefly explain why these were the most important sources and what you learned from each of them as you researched your theme. NOTE: Please use full, formal APA citations for your entry.

(Four resources listed here, one with an annotation, for the purpose of the sample HIA project. Chapters will use more academic sources as they develop HIA projects, and the eight most meaningful to their projects will be listed and annotated as part of their HIA Hallmark Award entries.)

Cook, J., Oreskes N., Doran, P. T., Anderegg, W. R. L., Verheggen, B., Maibach, E. W., Carlton, J. S., Lewandowsky, S., Skuce, A. G., Green, S. A., Nuccitelli,

D., Jacobs, P., Richardson, M., Winkler, B., Painting, R., & Rice, K. (2016). Consensus on consensus: A synthesis of consensus estimates on human-caused global warming. *Environmental Research Letters*, 11(4), 1–7. Retrieved from <https://iopscience.iop.org/article/10.1088/1748-9326/11/4/048002>

Climate change, more commonly and incorrectly lumped under the label "global warming," is a charged topic in social, economic, scientific, and political arenas. Several studies prior to Cook, et al. have attempted to measure the degree to which the scientific community believes that humans are the primary cause of climate change. While having come under fire upon its release, from obvious detractors, the Cook study represents the most comprehensive explanation of consensus among climate scientists yet.

Colepiccolo, E. (2015). Information reliability for academic research: Review and recommendations. *New Library World*, 116(11/12), 646–660. Retrieved from <https://doi.org/10.1108/NLW-05-2015-0040>

Mai, J.E. (2013). The quality and qualities of information. *Journal of the American Society for Information Science and Technology*, 64(4), 675–688. Retrieved from http://jensierikmai.info/Papers/2013_QandQofInfo.pdf

Sorenson, M.E. (2016). Beyond the Google search bar: Evaluating source credibility in contemporary research. *Communication Teacher*, 30(2), 82–86. Retrieved from <http://dx.doi.org/10.1080/17404622.2016.1139150>



6. Summarize your project action and collaboration objectives. In other words, what did your chapter set out to accomplish in terms of its collaborations and actions?

Action Component Objectives:

- Host a research librarian-facilitated workshop examining methods by which students can effectively vet sources to help determine the level of academic rigor and/or acceptability.
- Produce a professional poster highlighting the difference between academically acceptable sources and non-academic sources to be presented at the college's fall research forum.

Collaboration Component Objectives:

- Enlist the assistance of one professor from four distinct academic areas, as well as the college librarian, to assist us in developing a rubric to help identify the major criteria that make a source more or less academically acceptable.
- Develop a resources page based on the workshop to be included on the college library's *Academic Resources* page.

7. Describe the service or "action" components of this Honors in Action project that were inspired by and directly connected to your Honors Study Topic research. (Action can also include promoting awareness and advocacy.) Be sure to include information about the people and/or groups with whom you collaborated, why you chose these collaborators, and the impact they had on the outcomes of the project.

In order to utilize this review of publications on climate science to help us better understand source material, and the importance of relying on works produced from rigorous application of accepted research principles and publish with reference to other works and currently accepted knowledge in the field, we decided to hold a workshop focused on identifying quality source material. Participants, with access to a desktop (the workshop was held in the computer lab and two adjoining classrooms) or a laptop, were provided with the rubric we created, and were broken into three groups: 1) one-third were asked to use only the college library to find sources; 2) one-third were asked only to look in newspaper or other media outlets, or non-profit agency pages, and; 3) one-third were given no parameters at all concerning what sources they could access. Each group was assigned a different room and given the same two questions to

address through the use of their assigned source-types. The questions were:

1. To what extent is it natural for climate to fluctuate, and how does current climate science address this?
2. How do we know for sure that human-derived greenhouse gases cause the planet to warm?

Once participants had collected at least two sources per question, and graded them on the rubric, the three groups convened in the library to discuss their source material, how it supported each position, and on what previous work the source drew for support. The librarian then worked through several examples using the completed rubrics actual results from participants to illustrate what constituted a good academic source and what was lacking from sources deemed not academically acceptable by a panel of four professors. The workshop concluded with a question-and-answer session directed at the professor panel and the librarian.

8. What are the quantitative and qualitative outcomes of your project? What impact did your project have on the problem addressed and on opportunities for chapter members and others to grow as scholars and leaders?

Our quantitative outcomes led us to believe that it is more typical to find arguments that align with accepted science concerning climate change in peer-reviewed works (34 of 36 examined), books (27 of 31 examined), and government sites (12 of 12 examined) as opposed to differing viewpoints on the topic. When examining the difference between the mainstream and non-mainstream arguments, the non-mainstream works appeared in the following source types in numbers much closer to that of the mainstream arguments: in non-profit (private) agencies reports (4 of 9 reviewed), news outlets (13 of 31 reviewed) and personal publications (5 of 11 reviewed). We also found that in 25 of the 28 (89.3%) cases concerning opposition arguments, no citations nor bibliographic information was present. Of the three publications that did contain citations, two (2) were peer-reviewed works and one was a book. In comparison, of the 102 publications aligned with accepted scientific knowledge, 15 of 102 (14.7%) did not contain citations or bibliographic information (all 15 of the sources in this sub-category were newspapers). Using our research findings, as well as information taken from the workshop, we worked with the library staff to build the resources page to be included on the library website.

The workshop presented an opportunity for students, staff, faculty, and the community to engage in a discussion concerning what is and is not a “good” source. While not everyone participating in the workshop agreed on the categorization of each source concerning its ability to answer the questions presented, the forum created a robust dialog in terms of how to better examine sources rather than simply decide that any published work is automatically acceptable to cite. The qualitative outcomes arising from the workshop allowed us to gain experience in critical thinking

and examining viewpoints that may not align with our own. Moving forward as scholars, we think it is important to gain a solid skill set in properly vetting sources to help us produce the highest quality work possible. This will aid us in coursework at this institution and beyond. This exploration of Theme 4, Expressions of Truth, led us to a better understanding of what it means to examine the source of a published work. We will take this knowledge with us, as we continue our academic careers and our work lives and will do our best to preserve the legacy of academic inquiry as we move toward the seventh generation.

Additional Honors in Action Resources, including an Honors in Action workbook and Honors in Action Online Course, are available online at <http://ptk.org/Programs/HonorsinAction.aspx>

Interested in more Honors-related resources? Visit the following webpages:

Civic Scholar: Phi Theta Kappa Journal of Undergraduate Research
<http://ptk.org/Programs/HonorsinAction/CivicScholar.aspx>

Honors Case Study Challenge
<http://ptk.org/Programs/HonorsinAction/HonorsCaseStudyChallenge.aspx>

Honors Institute
<http://ptk.org/Events/HonorsInstitute.aspx>

