

Sample Assignment 1

Principles of Scientific Reasoning

Essay Assignment: Draft due October 20, Essay due October 27

Spectrology is defined as the scientific study of ghosts. Some claims about ghost sightings are hoaxes, but others are the earnest claims of people who take themselves to be engaged in a legitimate scientific practice, involving specialized equipment, research methods, and theoretical entities. Familiarize yourself with this field, then write a short essay (1400-1600 words) that answers the following question:

Is it possible to investigate the existence of ghosts scientifically?

Your essay should have a clear thesis, and in arguing for your thesis, you should apply concepts from this course, such as: scientific realism, deductive and inductive argument forms and fallacies, controlled experiments, experimenter bias, etc. You should also make clear how you define 'ghost,' and what your standards are for an investigation counting as 'scientific.'

Grading Criteria:

- thoughtful application of concepts from the course
- structure and organization of arguments
- clarity, grammar, spelling, writing style

Starting points:

www.strangehappenings.org

www.parapsych.org

www.parapsychology.org

www.skeptdic.com/parapsy.html

Recommended Citation Style: (see Chicago Manual of Style for more details)

Citation or quotation attributions should be made within the text. Cite author and year of publication, e.g. (Jones 1974), and where appropriate also include page numbers (Jones 1974, 25). Include a list of works cited in alphabetical order by author's last name.

Examples:

(Book)

Harding, Sandra G. (1987), *Feminism and Methodology: Social Science Issues*.
Bloomington: Indiana University Press.

(Article)

Oppenheim, Paul, and Hilary Putnam (1958), "Unity of Science as a Working Hypothesis", in Herbert Feigl, Grover Maxwell, and Michael Scriven (eds.), *Minnesota Studies in the Philosophy of Science*. Minneapolis: University of Minnesota Press, 3-36.

(Website)

Evanston Public Library Board of Trustees. "Evanston Public Library Strategic Plan, 2000–2010: A Decade of Outreach." Evanston Public Library.

<http://www.epl.org/library/strategic-plan-00.html>

Reflections on Sample Assignment 1

The learning objectives of the Essay Assignment were to analyze a new example, and apply the concepts they had learned in the course to it. They had previously seen an historical example, where the study looked legitimately scientific, but its subject turned out not to exist. I wanted them to apply similar standards of evidence and argument to a topic that they were familiar with (ghosts), but probably did not think of as scientific.

Since the course is not a writing section, I made the assignment just long enough to make two or three arguments. The point of the assignment was analysis, not research, so I gave the students clear instructions about where they might look for information, but allowed them to use any sources they found relevant. The students appreciated that they were able to use websites, TV shows, and their own experiences as the subject matter for an essay while still answering a serious set of questions.

In keeping with my commitment to teaching the skills that I expect my students to apply, I gave a short lesson on the difference between summarizing, paraphrasing and plagiarism, and made available several resources providing more examples. I also gave a short lesson on how to structure a philosophy paper, and encouraged them all to read through a longer treatment of that subject to which I provided a link. Finally, I required students to hand in a draft a week before the due date, so that I could provide them with feedback before the paper was due. In many cases I was able to warn them about structural problems, provide more detailed instruction about the proper use of citations, and suggest ways of incorporating concepts from the course into their arguments.

The results were quite impressive. Almost every student was able to pick out in what they read about ghost hunting instances of the argument forms we had discussed in class. Almost without exception they moved beyond quick surface reactions to what they were reading, and saw the similarities that could be drawn between this case and those we had studied. Many students began by arguing that ghost hunters are not very serious, but then realized that they use specialized equipment and techniques justified by theoretical principles, so that simple 'arguments against the person' were unconvincing. They moved on to give detailed criticisms of the experimental apparatus, observational techniques, and experimental controls used, and came up with more convincing ways of arguing against the rigor of the field. A significant proportion of students dug still deeper, and realized that since better observational techniques and experimental controls could be used than are typically, it would be possible to make ghost hunting into a rigorous science. Several students made quite subtle points about the relationship between the definition of a ghost and the possibility of experimentally studying their existence. One student wrote to me saying, "I found this essay to be a great tool for developing some of the concepts we have discussed in class already."