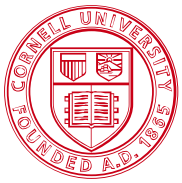

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Document Title: Synthesizing Information on Endangered Species for Multiple Audiences

Author: Nicholas Mason

Course: Ecology and Evolutionary Biology 1640

Course Title: On the Origin and Future of Biodiversity

Year of Award: Fall 2013

Fall 2013 James Slevin Assignment Sequence Prize

We are pleased to invite applications for the James F. Slevin Assignment Sequence Prize. This prize of $500 will be awarded to the teacher submitting the best sequence of writing assignments for a First-Year Writing Seminar (second place winners, if any, will receive $150).

Assignment sequences in a writing course are built around a series of essay topics. These sequences probably represent work assigned during a portion of the course rather than all of the essay assignments distributed over an entire semester. Submissions should include a rationale and a description of your plans for eliciting and responding to student drafts and revisions, as well as a description of how you prepare students for each essay assignment, for example by engaging them in preparatory writing exercises, including informal writing designed to help students understand the material on which they subsequently write formal essays. Reflections on what worked well, and why, and what you would change another time, are welcome.

The winner will be announced to the Cornell community. Winning entries will be deposited in the Knight Institute's web accessible archive and made available to other instructors under a creative commons attribution, non-commercial license. (See creativecommons.org for more information about cc licensing.)

To facilitate future searching of the Institute's archive, we ask that you provide a brief descriptive abstract (about 75 words) of your document, and a short list of appropriate keywords that might not appear in the text. Examples might include terms like "rhetorical situation," "style," "citation," etc. **Any borrowings such as quotations from course texts or handbooks must be cited properly in the document itself.**

Submissions are due in 101 McGraw Hall by Friday, December 20. No exceptions can be made.

Fall 2013 James F. Slevin Assignment Sequence Prize Application

~Please Print Clearly. Do **not** staple. Use paper clips only~

Instructor's name Nicholas Mason

Department BioEE Course # and title 1640: On the Origin and Future of Biodiversity

Local address _____

Local telephone _____ Email (Cornell and/or otherwise) _____

Home address _____

Home telephone _____ Student ID number _____

Should I win a prize, I give the John S. Knight Institute permission to publish, quote from, and/or distribute copies of the assignment sequence, and to distribute publicity to newspapers and other publications, local and/or national, about my winning the prize. I also grant the Knight Institute permission to deposit the assignment sequence in a web accessible archive and make it available under a creative commons attribution, non-commercial license. I am prepared to send electronic versions of my text to Donna O'Hora (dlo1@cornell.edu) in the Knight Institute. I understand that I will receive the award for my prize-winning sequence upon submission of the electronic text.

Synthesizing information on endangered species for multiple audiences

Title of Assignment Sequence

Instructor's signature _____ Date 12/19/13

Abstract:

This sequence of essays formed the core of a first-year writing seminar entitled 'On the Origin and Future of Biodiversity' that was first taught in Fall 2013. The motivation behind these essays is to instruct students how to perform research, write a review-style article, and communicate their knowledge to different audiences. This sequence took place over twelve weeks from the initial description of the first assignment to the final submission of the last essay.

Keywords: audience, citation, research, revision, scientific writing

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Sequence rationale:

This sequence of three essays was designed to teach students how to synthesize and communicate information on an endangered species for different audiences. As the core component of a writing course in the life sciences, this sequence focused on research, reading, citations, revisions, and audience – all of which are integral parts of writing in the sciences. In what follows, I describe the motivation, in-class activities, and significance of each component of this assignment sequence. Following the rationale, I have included pdf versions of each of the assignment prompts.

Assignment 1: Annotated Bibliography

Rationale: Research is a vital skill of writing well in any academic discipline; thus, the motivation behind this assignment was to instruct students how to locate, vet, read, and understand scientific articles efficiently and effectively. Students were required to find, evaluate, and summarize articles that they would then go on to use in later assignments in the sequence. For many students in my class, this was their first time reading primary literature in the sciences and the first annotated bibliography that they had composed.

Preparatory/in-class activities: Students were first required to identify an endangered species that interested them and write a proposal for their essay topic after some initial research. Students then shared their ideas in small groups and received written feedback from the instructor on their ideas and the tractability of their topic. A week after the essay was first assigned, students attended a session at Mann Library wherein students learned how to search scientific databases, such as Web of Knowledge, and learned how to use bibliography management software, such as RefWorks. Many students identified this library session as an extremely valuable component of the course that would benefit them beyond this FWS. Following the library session, the students participated in an in-class activity designed to teach them how to read scientific articles effectively and efficiently. This exercise emphasized 'active reading' and encouraged students to look up unknown

vocabulary, pay attention to table and figure legends, and avoid 'linear' reading of scientific articles.

Revisions: In addition to receiving feedback on their initial proposal, students submitted a first draft of their annotated bibliographies. The instructor provided feedback on the validity of their sources and identified any errors in APA formatting.

Assignment 2: Research Paper on an Endangered Species

Rationale: This assignment focused on students' ability to synthesize and present information gathered from multiple sources on an endangered species that they had researched for their annotated bibliography. Thus, students built upon the knowledge they had gained from reading primary literature to compose a research essay that summarized a body of scientific work. Students were encouraged to organize their paper using headers and subheaders in a similar fashion to scientific 'review' papers. This essay emphasized the proper use of in-text citations to incorporate information from various sources into their writing.

Preparatory/in-class activities: In preparation of writing this research paper, students read a number of 'review' articles on endangered species from peer-reviewed journals, such as *Conservation Biology*. This provided students with guidelines for voice and content as they began their preliminary drafts. As part of this assignment, students visited the Lab of Ornithology, where they received a tour and spoke with conservation biologists about the challenges of conservation in the 21st century. Finally, students participated in an in-class exercise where we discussed appropriate in-text citation strategies.

Revisions: This essay involved two revisionary processes resulting in three drafts. After writing a first draft, students received feedback from the instructor. The instructor focused on the organization, content, in-text citations, and APA formatting of the essay, in addition to feedback on grammar and diction. The students were then given one week to incorporate or respond to the instructors suggestions. The second revision was a peer-review process – students formed (randomly generated) groups of three and exchanged first drafts of their research article. Students were given 25 minutes to read and provide feedback on two students' drafts. Students were provided with guidelines for conducting the peer-reviews (attached). After each student had read two other essays, each student received five minutes of feedback from their peers. The rationale behind this ordering of revision processes was that the instructor should first review the essays to ensure that students have not deviated from the intended structure and content of the essays, while the peer-review process allowed students the opportunity to edit, appreciate, and discuss their peers' writing.

Assignment 3: Science Writing for Different Audiences

Rationale: The ability to write clearly and coherently is paramount in the sciences. Thus, the motivation underlying this last essay was to provide students with the opportunity to write for a general, non-academic audience and practice different styles of writing about science. This essay allowed students to critically consider written communication in the sciences and the efficacy of different forms of writing for distinct audiences.

Preparatory Activities: In preparation of this last essay, students first read a narrative written by prominent naturalist E. O. Wilson that appeared in the New Yorker. This article was a short story about an ant colony and demonstrated how science can be communicated for different audiences via formats that differed from the review article that they had just completed. Students were given three different options for this assignment: 1) write a popular science style article on their endangered species; 2) write a narrative focused on conservation issues of their selected species. This could be from the perspective of the animals themselves, or biologists who were studying the organisms. 3) write a satirical piece that exposes any challenges or shortcomings of the conservation efforts surrounding the selected species. A week after the essay was assigned, students met in groups of three to discuss their ideas. Students also submitted a brief proposal or outline for their essay, which was reviewed by the instructor.

Revisions: Outside of the feedback provided on the outline, this essay did not go through any revision process.

What worked well: Students said multiple times that they benefitted from both the peer-review and the instructor's revisions. Students mentioned that they enjoyed reading other students' work and had not had many prior opportunities to edit and provide feedback on their peers' work. This made them more comfortable with receiving and providing constructive criticism throughout the rest of the semester. Students also enjoyed the different styles or formats of writing – the narrative/satirical/popular science essay provided a nice change of pace from the research essay, which was the longest, most intensive essay of the semester.

What could be improved: Based on feedback from the students, the class benefitted from the library session. However, the librarian and I could have been more coordinated – it was uncertain what the main focus of the session would be and the event seemed scattered at times.

Essay #3: Annotated Bibliography

Assigned: September 26^{th}, 2013
Proposal due: October 1^{st}, 2013 due in class
First draft due: October 8^{th}, 2013 submit via Blackboard, also bring copy to class
Final draft due: October 22^{nd}, 2013 submit via TurnItIn

This essay is designed to help in undertaking research and preparatory writing for *Essay #4 – Review article on an endangered species in North America*. For Essay #3, you are required to locate, read, and synthesize information from at least ten sources that are related your selected endangered species. You will then use the information from these sources to compose your review article on an endangered species in North America. In addition to summarizing information, you should comment on the intended audience and the quality of the source in each annotated bibliography entry.

WHAT IS AN ANNOTATED BIBLIOGRAPHY?:

An annotated bibliography is a list of citations to books, articles, and documents. Each citation is followed by a brief (usually about 150 words) descriptive and evaluative paragraph, the annotation. The purpose of the annotation is to inform the reader of the relevance, accuracy, and quality of the sources cited.

THE PROCESS:

- Creating an annotated bibliography calls for the application of a variety of intellectual skills: concise exposition, succinct analysis, and informed library research.
- First, locate and record citations to books, periodicals, and documents that may contain useful information and ideas on your topic. Briefly examine and review the actual items. Then choose those works that provide a variety of perspectives on your topic.
- Cite the book, article, or document using the APA style.
- Write a concise annotation that summarizes the central theme and scope of the book or article. Include one or more sentences that (a) evaluate the authority or background of the author, (b) comment on the intended audience, (c) compare or contrast this work with another you have cited, or (d) explain how this work illuminates your bibliography topic.

AN EXAMPLE:

Kirchman, J. J., Schirtzinger, E. E., & Wright, T. F. (2012). Phylogenetic relationships of the extinct Carolina Parakeet (*Conuropsis carolinensis*) inferred from DNA sequence data. *The Auk*, 129 (2), 197204.

The authors, researchers at the New York State Museum and New Mexico State University, sequenced DNA from the extinct Carolina Parakeet (*Conuropsis carolinensis*) to determine how it is related to other New World parrots. They find that the Carolina Parakeet forms a monophyletic group with species from the genera *Aratinga* and *Nandayus*. However, it is distantly related to these taxa, therefore, the authors recommend keeping the Carolina Parakeet in its own genus. Previous assessments of phylogenetic relationships in this group were based on morphology and differ from what is presented here. This article is intended for a specialized audience of evolutionary biologists and was published in a peer-reviewed academic journal.

Formatting guidelines:

- At least a 150 word entry for ten relevant sources (no page requirements, but I estimate it will take 6-8 pages)
- Double-line spacing
- 1 inch margins on all sides
- Times New Roman 12 pt font
- Title and name on first page
- Page numbers on all pages
- APA citations

Essay #4: Review Paper on Endangered North American Species

Assigned: October 22nd, 2013
First draft due: October 29th, 2013 submit via Blackboard
Final draft due: November 5th, 2013 submit via TurnItIn

There are over a thousand species of vulnerable, endangered, or critically endangered animals in North America alone. For this essay, you will write a review paper that summarizes the threats that face one of the species on North America's IUCN Red List of Threatened Species. If you choose, you can also write about either a plant or animal outside of North America. However, if you choose an organism outside of North America, you want to make sure that there is enough information available to write a well-informed review paper. In your essay please address the following questions (not necessarily in this order):

- Describe the organism's natural history: What is its geographic distribution? How is it identified or distinguished from similar species? What type of habitat does it live in? What does it eat? Does it have any predators? What other species is it closely related to? How does it reproduce? Does it migrate? Are there any other interesting behaviors or adaptations that characterize this species?
- Describe the history of decline: How has the relative abundance of this species changed over time? When was it most numerous? When were declines most severe?
- What are the conservation issues at hand: What processes have contributed to this organisms decline? How have human activities impacted the status of this species?
- What conservation actions are taking place to promote the recovery of this species? What do you think conservation biologists should prioritize to prevent the extinction of this species?

This essay should incorporate information from **at least ten well-vetted, properly cited sources**, including some or all of the information that was considered as part of the annotated bibliography (Essay #3). Please follow the APA template on the blackboard site in the 'Course Documents' folder. In addition to a title page, please include section headers to organize your essay. Including section headers (and subsections as you see fit) will help the organization and cohesion of your essay and will guide readers in understanding your writing.

I suggest including the following sections for your essay:

(1) Introduction
(2) Information on the life history and basic biology of the organism of focus
(3) A historical perspective on the decline of the organism
(4) Current efforts to promote the conservation of the organism and priorities for the future
(5) Conclusion

Formatting guidelines:

- Length 7 - 10 pages
- Double-line spacing
- 1 inch margins on all sides

- Times New Roman 12 pt font
- APA style title page
- Include Abstract
- Include Section Headers
- APA style in-text citations
- APA style literature cited section

In-Class Peer Review

Providing written, constructive criticism to peers is a critical step in the academic publishing workflow. The peer-review process also benefits your own writing as you start to gain a sense what constitutes effective and ineffective writing. In groups of three students, exchange essays so that your work is read and reviewed by two other students. Fill out the form below and be sure to provide oral as well as written feedback after reading the two essays that you are assigned.

Remember the golden rule of peer-review: provide the kind of feedback that you think would be useful to receive on your own writing.

Writer's Name: _____

Peer Reviewer's Name: _____

1. What works well in this essay? Identify at least two specific aspects of the writing that were effective. What would you recommend that the writer continues to do as they work on the next draft of this essay and other essays throughout the semester?

2. What are any aspects of this essay that could be improved? What revisions would you suggest for the next draft of this essay?

3. How is the organization of this essay? Do you have any comments on the introduction, conclusion, or transitions between paragraphs? Do headers and subheaders help to organize the writing and direct the reader? Are there any sections or portions that need reorganization?

4. How is the sentence-level writing? Are sentences well-written with proper punctuation, grammar, and syntax? Do you notice any repeated errors?

5. Are there any excerpts that need in-text citation(s)? Are any in-text citation superfluous? How informative and well-supported is the essay? Does the formatting (in-text citations, references section, overall layout) conform to APA guidelines?

Essay #5: Science Writing for Different Audiences

Assigned: November 12^{th}, 2013
Final draft due: 11:59 pm on November 18^{th}, 2013 submit via TurnItIn

For this essay, you will focus on using the knowledge that you gained from Essay #3 and #4 to write an informed essay for a different audience or in a different style. You will have three options to choose from, which are described in more detail below: a narrative, a satirical piece, or a popular science article. You are free to choose whichever format you prefer and you are encouraged to use the knowledge that you acquired in Essay #3 and #4 to inform your narrative.

The following formatting guidelines pertain to all of the essays.

Formatting guidelines:

- Length 3 - 5 pages
- Double-line spacing
- 1 inch margins on all sides
- Times New Roman 12 pt font
- Title and name on first page
- Page numbers on all pages
- Name your file following this format: LastName_Essay5.docx

Option 1: Narratives in Nature

Using the knowledge that you gained from Essay #3 and #4, construct an informed narrative that focuses on an interesting component of the focal organisms' life history or some detail of its conservation efforts. You can choose to write this narrative from any perspective that you like and are encouraged to be creative. For example, you could write the essay from the perspective of the organism itself, from the perspective of a conservation biologist working to help the species' recovery, or from a third person perspective. While the narrative should be engaging and you have creative liberty, the narrative should also be informative and the reader should learn something about the organism's biology and the conservation efforts surrounding it. No in text citations or references are required for this option.

Option 2: Satirical Piece on Conservation

Satire involves using a combination of irony, humor, exaggeration and ridicule to expose weaknesses, shortcomings, or biases in social or scientific paradigms. Using the knowledge that you gained from Essay #3 and #4, construct an satirical essay that highlights any challenges or shortcomings concerning the conservation efforts of your chosen species. You can also choose to write a satirical piece about a larger issue that we have discussed in class. You are encouraged to be creative in how you write your satirical piece, but the overall goal should be to expose weaknesses or shortcomings in conservation agendas through farcical, humorous writing. Here are some examples of satire: Futurama, South Park, Science made stupid, and this article in the Guardian. In-text citations in APA format are required if you are using specific information from a given source.

Option 3: Popular Science Article

Convert Essay #4 into a popular science article that is accessible to a wide audience. Your essay should be informative; the reader should learn about the natural history and conservation efforts of your chosen species, but the language should be geared towards a non-academic audience. You are free to focus on a specific component of your essay. I recommend that you follow the style, tone, and content of popular science blogs, such as National Geographic or Scientific American. In-text citations in APA format are required if you are using specific information from a given source.