Digital Tour: Biomechanics of Flight

Community organization: MACRO project and Wayne State College

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| 10/16/2017 | Draft of museum speech script and storyboard in Canvas |
| 10/18/2017 | Upload Rehearsal of Museum Speech in Canvas Discussion Board |
| Before 10/23 | Recommended pre-production Digital Studio appt. |
| 10/25/2017 | Feedback due in discussion board for online rehearsals content and delivery |
| Before 10/31 | **Required Digital Studio session** |
| 11/3/2017 | UPLOAD MP4 file of Museum Speech |

Learning objectives addressed in this assignment:

 1. Demonstrate increased confidence and oral communication skills in public, personal, and a variety of career contexts

 2. Demonstrate the ability to conduct and report research in accordance with professional standards

 3. Demonstrate the ability to speak to multiple audiences for multiple purposes

 4. Demonstrate competency and confidence in informative and persuasive speaking

 8. Use technology to organize and communicate ideas through visual presentations and media

 9. Demonstrate presentational abilities, with emphasis on the following:

* Use an opening attention-getter and a concluding clincher
* Verbalize a clear thesis and preview main points
* Use appropriate organizational strategies and effective transitions
* Use visual aids to help clarify key points, make them interesting, and establish authority
* Maintain clear articulation, vocal variety and expressiveness, as well as offer effective pauses without using disfluencies  (uh, and uh, like, okay)
* Communicate confidence and control over content and delivery

In your digital audio tour you will integrate still and video images to complement your audio. The result will be an MP4 video file. This is your only speech assignment requiring a **manuscript** delivery. Using a manuscript will reduce nonfluencies. Be sure to use vocal variety and your goal is to come across as conversational, not as though you are reading. The content to be covered is delineated below. You will develop a script to address each of the points below in the order they appear. **Cite all of your sources. An appointment with the Digital Studio is required.** The time that often works best is after storyboarding and before video production. You are welcome to schedule a pre-production appointment, also, but only one is required.

1. Introduce yourself as a student from Embry-Riddle and say what your major is. DO NOT GIVE YOUR NAME.
2. Tell the audience that the tour will provide information on (name your assigned bird) and the biomechanics of flight for Wayne State College A. Jewell Schock Natural History Museum and the MACRO Project.
3. Give the common name and show the genus and species names for the specimen on the screen. In your presentation use only the common name after that.

Indentify the type of bird (choose from: shore bird, water fowl, ground bird, song bird, bird of prey). Here are some sources:

Cornell Lab of Ornithology

Cornell <http://www.birds.cornell.edu/Page.aspx?pid=1478>

Audubon Society <http://www.audubon.org/>

ID a bird from a feather <https://www.smithsonianmag.com/videos/category/science/how-to-identify-a-bird-from-a-single-feather/?utm_campaign=201203-science&utm_medium=email&utm_source=smithsoniansciandnat>

1. Describe the general habitat and method of feeding characteristic of your specimen.
2. Describe general information about the forces of flight.
   * + 1. Describe and show lift, drag, weight, and thrust.
       2. Create by hand or on the computer how the forces of flight relate to bird flight in general.
       3. Make sure to use resources obtained from NASA, research web sites (mostly located on university websites), or from articles published in original, peer-reviewed journals. However, you may also use information from this site.
       4. All scientific and technical terms must be described to your audience using verbal analogy.

Possible sources: Remember you must cite the source e.g. NASA, Smithsonian Institute, etc.

<https://www.nasa.gov/audience/foreducators/k-4/features/F_Four_Forces_of_Flight.html>

<http://howthingsfly.si.edu/forces-flight/four-forces>

<https://www.grc.nasa.gov/www/k-12/airplane/forces.html>

<http://mste.illinois.edu/TCD_new/Aerodynamic_Forces/four_aerodynamic_forces.html>

<https://www.grc.nasa.gov/www/k-12/UEET/StudentSite/dynamicsofflight.html>

1. Describe your specimen in detail including size and shape and identify characteristics that influence your specimen's flight. Include information about the proportion between wing length and body mass and/or proportion of primary flight feather length to total arm length. Also include information about the bird's feathers and how the feathers affect flight.
2. Tell the audience how your specimen flies. Include concepts such as airfoil, lift, wing rotation, supination and pronation.
3. Include whether it has to run to fly, if it takes off from water, if it drops from a tree.
4. Describe how your specimen uses its wings to land.
5. Describe the flight of your specimen with one other specimen.
6. Apply biomechanics of bird flight to aviation or robotics.
7. Conclude your tour
   1. Provide a very short summary.
   2. End by encouraging your audience to observe birds in flight.
8. Create a bibliography for your final image.

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| Rubric for Museum Digital Tours | | | | | |  |
| Modified STEMSL tool for the ERAU service-learning project without reflections | | | | | |  |
|  | Understand | Apply | Analyze | Evaluate | Create | Pts Possible |
| Factual Knowledge | Describe your specimen and cite outside sources | Apply your factual knowledge of your specimen to bird flight and cite outside sources |  |  | Create a visual image of your specimen | 9 |
| Score 0-3 |  |  |  |  |  | 0 |
| Conceptual Knowledge | What is the biology of your specimen | Use analogies to define and describe scientific terms. | Relate the concepts you have covered to what a person may observe when watching a bird fly | Used informative and relevant sources and cited them correctly |  | 12 |
| Score 0-3 |  |  |  |  |  | 0 |
| Procedural Knowledge | Describe, step by step the process of flight for your specimen | Carry out the procedure of writing a script according to guidelines | Critique and analyze your rough draft of your tour. Ask yourself if you (or others you have listen to it) find it interesting, engaging, and informative. | Incorporate feedback from written script in preparing final version of manuscript and digital tour | Create a tour that is easy to understand and informative. | 15 |
| Score 0-3 |  |  |  |  |  | 0 |
| Peresentation | Readibility | Using technology to combine text, audio, graphics. |  | Selection of graphic, video, and sound files | Overall evaluation of the museum tour | 12 |
| Score 0-3 |  |  |  |  |  | 0 |
| Total Score | | | | | | 0 |

0, Does not do activity;

1, does activity but does not meet learning objective (includes the least amount of information possible but does not go through register shift to explain it directly or by analogy),

2, meets learning objective (student provides details AND does go through a register shift to explain it directly or by analogy),

3, excels at leaning objective (includes multiple interesting bits of information AND meets the audience expectations by explaining the material well),