**FORMAL ASSIGNMENT 2: SUMMARY OF PROJECT FINDINGS**

**Assignment Description**

The ability to compose clear, concise, complete, and audience-appropriate summaries of projects and procedures is of utmost importance in the engineering workplace and is a typical writing task assigned to interns and new hires. Unfortunately, many employers who have hired OSU engineering students into those positions comment on our students’ apparent lack of preparation in this area. To gain practice in this skill, you will complete a small research project and prepare a process description and summary of project findings.

**RHETORICAL CONTEXT**

You are a design consultant hired by a middle school science teacher to test and report on the viability of an experiment students may perform in class.

**DUE DATES**

* PEER REVIEW: Tuesday, 10/16
* FINAL DOCUMENT: Thursday, 10/18

**RESOURCES**

* *Engineering Communication*: Chapter2 (Principles 4-6)

**ASSIGNMENT GOALS**

Students will demonstrate the ability to:

* Write a project summary using appropriate terminology based on the needs and technical background of a specific audience.
* Practice principle 2 from the textbook (improvising genre) and apply three new ones:

1. Develop a credible argument
2. Use rhetorical tools consciously
3. Build effective introductions.

**Experiment description:** Determine the load a straw can carry when used as a cantilever beam to illustrate how the load-bearing capacity changes with beam length.

* **Audience –** Middle school teacher.
* **Audience technical background –** The teacher has successfully completed college math and science courses required for teaching middle school science classes.
* **Deliverable –** A short document (probably around 2-3 pages, including illustrations) that provides a brief process description, discusses project results, and offers recommendations for conducting the experiment with middle school students.

**PROJECT STEPS**

**Step One – The Experiment**

Using a straw as a cantilever beam, determine how the load-carrying ability changes with the cantilever length. Using the methodology described below, perform at least two tests at each length.

**Middle school teacher’s proposed method:** Tape a straw to the top of a table with the length to be tested extending beyond the table’s edge. Fasten one end of a short length of string to a paper cup. Tie a loose loop at the other end of the string, and slip the loop over the end of the straw. Position the loop on the straw such that the distance between the loop and the table edge is the cantilever length to be tested. Fill the cup with pennies until the cantilever fails. Repeat for different cantilever lengths.

**Step Two – The Report**

Write a summary of project findings for the experiment. While the project goal and experiment methodology should be clearly and concisely described, the results and discussion of those results will be the primary focus of the document.

**REQUIRED REPORT COMPONENTS**

* **Introduction:**
  + Explains the purpose of the project summary (to report findings and offer recommendations regarding feasibility of a specified experiment as a middle school activity).
  + Briefly explains purpose of experiment (to illustrate how the strength of a cantilever beam changes with length).
  + Provides a short narrative-style description of the experimental methodology (materials, set up, and process—with illustrations).
  + Previews the remainder of the summary content and organization.
* **Results and Discussion:** Reports the results of the experiment (in both a table and a graph) and then interprets the results, addressing the following questions:
  + Were the results of the experiment repeatable? Why or why not?
  + Did the tests suggest a predictable relationship between the length of the cantilever and the load-bearing ability? How confident are you in that relationship? Why?
* **Recommendations:** 
  + Do you recommend the experiment as a middle school science project?
  + Are there any concerns or caveats about the feasibility of middle students conducting this experiment? Any obstacles students may encounter?
  + Do you recommend any changes to the proposed experimental procedure to create a more successful middle school activity?

**REQUIRED FORMAT**

* Times New Roman font, 12 point for headings and body.
* 3-line, single-spaced header in the top left corner of page 1:
  + Student name
  + Writing 327
  + Date
* Last name and page number in the top right corner on second and subsequent pages (See Formatting Tips document in Course Documents folder).
* Title centered and bold: **Summary of Project Findings: Proposed Experiment on Cantilever Beams.**
* Bold font for headings. Primary headings in all caps, secondary headings in title case caps. No space between headings and body paragraphs.
* Single spaced block paragraphs. No indentations, 1 blank line between paragraphs.
* No default extra white space between paragraphs
* Labeled graph and table, add captions, and refer to visuals in the text.
* Binding: Stapled.