

Statistics Project- Writing The Report



The Cover Page

Some of you may ask; "Mr. Middleton, why don't you give us an example of a cover page. If I did that I think I would have a multitude of cover pages that resembled the one presented on this web page. I want to see what you come up with, so use fonts and graphics that will make your cover page look professional. If you do not have access to a computer, see me at break, lunch, or tutorial. Here are the guidelines to make you very successful in your endeavors:

Cover pages must include the following items:

- At the top of the cover page in a **24 point or larger font**, must be the **title** of your project.
- Include your **project theme or Informational theme** four lines below the title. Use a font smaller than the title, but **not lower than 16 points**.
- Use a **graphic** in the middle of the page. Do not make the graphic bigger than necessary. It should not dominate the page.
- At the bottom of the page should be your **name and class period**. Use a **12 point font**.
- Lastly, whether on the cover or in the body of the report, do not use fonts that are difficult to read. Some fonts are "neat" and "pretty" but are not very readable. Here is an example of what I mean: "PLEASE READ THIS FOR 12 PAGES AND TELL ME YOU DON'T HAVE A HEADACHE." Graphics should relate to the project. Use original artwork or clip art that is appropriate to the project.

The Table of Contents

A table of contents should be self explanatory. Microsoft Word has a great feature that allows you to create a "running" table of contents .You might want to learn how to use this. Use fonts and graphics that will make your cover page look professional. Here are the guidelines for success:

- Use tabs and not the space bar to align your entries. Once you learn this feature you will be surprised how easy it is use. It makes the documents look so professional!
- Do not use fonts that are difficult to read.
- Use item numbers to separate the lines (proper outlining methods)
- Include page numbers
- Follow this format: **1. Abstract page 1**

The Abstract

You are the Statistician and your job is to explain to me in two single spaced paragraphs, just what your project is all about. An Abstract is like a conclusion written at the beginning of a report. In the professional world, supervisors like to know the “bottom line”. If they want the details, then they read on, if not they can find the summative statements first in the abstract. Give a short summary of what you are doing for this project, its results, and what implications there might be based on your results. The abstract must contain the following elements. Failure to comply will result in correcting and rewriting the report. Which will mean that you don't meet the deadline for the project and will have points docked from your score.

The first paragraph must contain the following elements:

- Introduction - to include the project theme or general area of information.
- Target of information – This is what you want to know, be sure to include demographics like . . . we want to know the average size of the largest skyscrapers in Manhattan . . .
- Explain why there is a need for the information from your project. Strike my interest and make it readable.

The second paragraph must contain:

- A summary of what you found. It can be a descriptive analysis or an inferential one (prediction). State what ramifications there might be based on your information. {ie: Since most of the skyscrapers are only 200 ft. tall, most of the buildings can be constructed with less than 50 floors., etc. }

The Data

You are the Statistician and your job is first and foremost to collect and organize your data. Use need to use approved methods for organizing data. The tables, or lists must be need clean and easy to read. All labels and headings must state what the item is and the units of measurement used {ie: cost of tuition at public four year schools (\$), Amount of Food used by restaurants in San Diego County (lbs.) }.

You must display the data using each of the following items:

1. A Frequency Distribution Table.
2. Stem plot
3. Box plot
4. Histogram
5. *** One other graphical methods of your choice. Choose one you deem necessary to present the information.

The Analysis/Calculations

Once you have presented the data, you need to analyze it. You will be asked to compute and describe the distribution's three important measures of Center, Shape, and Spread. This means that in this section of the report you will compute, calculate or otherwise describe the following:

Center - Mean, Median, Mode (can be modal class), Mid-Range

Spread – Range, Standard Deviation, Five-number Summary.

Shape – Describe the distribution using the descriptive measures learned in this class.(symmetry, skewness, clustering, etc.)

Each calculation can be done using a spreadsheet, but MUST have a “SAMPLE CALCULATION SHOWING HOW THE COMPUTATION IS DONE” by hand. This MUST Show ALL the steps needed. On the following page, there's an example of the Format for each Sample Calculation:

Sample Calculation Format:

Component

Example:

Title

Mean

Formula

$$s = \sqrt{\frac{\Sigma(x - \bar{x})^2 f}{n}}$$

“Plug-Ins”

$$s = \sqrt{\frac{\Sigma[(640 - 635.5) + (650 - 635.5)...]^2 * (4)}{10}}$$

$$s = \sqrt{\frac{(380.25)(4)}{10}}$$

Work

$$= \sqrt{\frac{1521}{10}}$$

$$= \sqrt{152.1}$$

$$= 12.332$$

Boxed Answer

$$s = 12.3$$

The Conclusion/Reflections

You are the Statistician and your job is to present a final analysis of your data in the abstract, so in this section comment on what you learned or some new insight you gained in doing this project. It is your turn to reflect on what you know, whether it is about statistics or some new fact you learned from the data. IT should be an “A HA!” kind of learning you made. It might be “ I never knew..., or I found it interesting that ..., or I never really knew that..., etc.