Understanding Statistics

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WHAT'S COVERED

In this lesson, you will learn about the role of statistics in a speech. Specifically, this lesson will cover:

1. Understanding Statistics
2. Guidelines for Helping Your Audience Understand Statistics
3. Common Uses of Statistics in a Speech
4. Common Misunderstandings of Statistics

1. Understanding Statistics

Using **statistics** in public speaking can be a powerful tool. It provides a quantitative, objective, and persuasive platform on which to base an argument, prove a claim, or support an idea.

Before a set of statistics can be used, however, it must be made understandable by people who are not familiar with statistics.

The key to the persuasive use of statistics is extracting meaning and patterns from raw data in a way that is logical and demonstrable to an audience. There are many ways to interpret statistics and data sets, but not all of them valid.

TERM TO KNOW

Statistics
A systematic collection of data on measurements or observations, often related to demographic information such as population counts, incomes, population counts at different ages, etc.

2. Guidelines for Helping Your Audience Understand Statistics

Use reputable sources for the statistics you present in your speech such as government websites, academic institutions and reputable research organizations and policy/research think tanks.

Use a large enough sample size in your statistics to make sure that the statistics you are using are accurate

(for example, if a survey only asked four people, then it is likely not representative of the population's viewpoint).

Use statistics that are easily understood. Many people understand what an average is but not many people will know more complex ideas such as variation and standard deviation.

When presenting graphs, make sure that the key points are highlighted and the graphs are not misleading as far as the values presented.

Statistics is a topic that many people prefer to avoid, so when presenting statistical idea or even using numbers in your speech be sure to thoroughly explain what the numbers mean and use visual aids to help you explain.

3. Common Uses of Statistics in a Speech

Some common uses of statistics in a speech format may include:

- Results from a survey and discussion of key findings, such as the mean, median, and mode of that survey
- Comparisons of data and benchmarking results— also using averages and comparative statistics
- Presenting findings from research, including determining which variables are statistically significant and meaningful to the results of the research (this will likely use more complicated statistics)

4. Common Misunderstandings of Statistics

A common misunderstanding when using statistics is "correlation does not mean causation." This means that just because two variables are related, they do not necessarily mean that one variable causes the other variable to occur.

> EXAMPLE Consider a data set that indicates that there is a relationship between ice cream purchases over seasons versus drowning deaths over seasons. The incorrect conclusion would be to say that the increase in ice cream consumption leads to more drowning deaths, or vice versa.

Therefore, when using statistics in public speaking, a speaker should always be sure that they are presenting accurate information when discussing two variables that may be related.

Statistics can be used persuasively in all manners of arguments and public speaking scenarios— the key is understanding and interpreting the given data and molding that interpretation towards a convincing statement.

SUMMARY

In this lesson, you learned that **understanding statistics** requires creating a persuasive narrative that explains the data and an adequate explanation of why a statistic is being used, what it means, and its source. The persuasive **use of statistics** is one of the most powerful tools in any rational argument, especially in public presentations. There are many ways to interpret statistics, however a public

speaker should be mindful that they are presenting a statistic in an accurate way and not misleading the **audience** through a **misrepresentation of a statistic**.

Source: Boundless. "Understanding Statistics." Boundless Communications Boundless, 22 Jun. 2016. Retrieved 19 May. 2017 from https://www.boundless.com/communications/textbooks/boundless-communications-textbook/supporting-your-ideas-9/using-statistics-47/understanding-statistics-193-8003/

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