

## Lecture 2 Outline—September 25, 2000

Here are our issues for the day:

- 1) Are the readings available? A new system goes into effect this afternoon—ID checkout see Sandy in 2140 Derby Hall. You will be permitted to take the readings for 30 minutes to copy them. Your ID will be returned after you return the readings.
- 2) Please do not engage in Internet or other computer-related activities during class. It will mean an automatic zero on an exam. Resist temptation!
- 3) Lectures 1 and 2 will be posted by tomorrow afternoon. The web address is:

<http://psweb.sbs.ohio-state.edu/grads/wanderson/classes.htm>

This will happen assuming that the ftp passwords for uploading files are ready to go.

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### **Our plans:**

- 1) **“The Numbers Game”**
  - 2) **The Scientific Method**
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### **What is the Scientific Method?**

→ or how do you get from a research question to a research paper?

#### **1. Generally, we go through six steps:**

- a. The researcher sees a problem that needs a solution
- b. Stating research problem
- c. Dividing the problem into manageable parts or pieces
- d. Generation of hypotheses/tentative solutions to the problem(s)

- e. Searching for data directed by the hypotheses and collecting/organizing the data
- f. Interpreting the meaning of the data, confirming or rejecting our hypothesis, and evaluating our theory after testing it.

## 2. What types of data are out there?

- a. **Quantitative data:** mainly consists of numbers (income, temperature, height, weight)
- b. **Qualitative data:** data culled through observation, hermeneutics, cultural immersion

## What's the most important part of the research process?

### Having a Theory!

## 3. What is a theory and where does it fit?

1. **Hoover and Donovan (Ch. 2):** A theory is a set of related propositions that suggest why events occur in the manner that they do.
  - a. **Theories are made up of propositions of the same form as hypotheses.**
  - b. **Theories are generally stated in a causal manner:** if X happens then we expect Y to follow.

## 2. What does a good theory need?

- a. **You need an X and a Y**—these are referred to as variables.

## 3. What is a variable?

- a. Basic: it is something that varies—it is not a *constant*.
- b. A characteristic, number, trait, etc. that varies from person to person, group to group, and nation to nation.

4. **What types of variables are there?** Lots, but we're dealing with these two today...

- a. **Dependent variables** (the Y)
  - b. **Independent variables** (the X)
5. **And back to theory—what makes a theory good?**
- a. **Simplicity:** KISS
  - b. **Predictive Accuracy:** What good is an archer who can't hit the target?
  - c. **Importance:** Does the problem really matter that much in the first place?
6. **How is a theory different from an hypothesis?**
- a. **Theories are much *broader* in scope**
  - b. **Hypotheses test theories, but theories do not test hypotheses**

**Conclusion, Questions, and Comments**