Design Your Own Experiment Project Outline

# Phase 1 – Article Review

Begin in class on ­­­­­­­­­­­­­­­­­­­­­­­­­­\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_at the beginning of class you may pick a partner from your class to work with on you and you will select a question you would most like to investigate. In preparation for creating your own experiment proposal, during class we will read a classic psychological study to see how experts in the field have investigated similar questions.

After reading the case as a class, you and your partner will identify the following in the case study we read together:

• HYPOTHESIS – Identify the hypothesis of the case study. Use the format "If \_\_\_\_\_\_ then \_\_\_\_\_\_\_\_\_". • OPERATIONAL DEFINITIONS – Define all variables. Be specific enough to allow replication.

• METHOD – Why did they chose this method to investigate their research question?

• POPULATION – What was the population studied? (clearly differentiate from sample)

• SAMPLE and ASSIGNMENTS – How were the subjects chosen and then assigned to experimental or control groups? (clearly differentiate from population)

• MATERIALS – What materials were used?

• ETHICS – What steps did researchers take to ensure ethical guidelines were met? Be sure to fully address the four ethical guidelines discussed in class as they relate to the study.

Phase 2 – Experiment Proposal Due

Using the question you chose to investigate, design an experiment proposal using the proposal guidelines and rubric (see attached). Your proposal should follow said guidelines and be hand-written. You will not actually conduct this experiment. **Your completed Project, which will include both the finished Article Review and Experiment Proposal, will be due at the beginning of class on:** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Late projects will be deducted one letter grade per school day that you are late. If you are ill on this due date or for any other reason cannot come to school, you must find a way to get the project to me (send it with a sibling, parent or friend or scan it and email it to me at: castillm@dadeschools.net

Experiment Write-Up Guidelines:

Use the following guidelines for your experiment proposal. When you write up your report, include the label for each section. Actually write out “HYPOTHESIS,” and so on. The rubric for this write-up is attached. Before you hand in your write-up in, be sure that all necessary components are included.

TITLE: This should clearly reveal the nature of your proposed experiment.

HYPOTHESIS: This is your educated guess – the statement that you will try to prove or disprove. After reading your hypothesis it should be clear what your independent and dependent variables. Remember to use the format, "If \_\_\_\_\_\_ then \_\_\_\_\_\_\_\_\_".

OPERATIONAL DEFINITION: Be sure to operationally define all the terms in your hypothesis. After reading your hypothesis it should be clear what your independent and dependent variables are and both of these should be operationally defined (how they would be measured). For example, if the term “successful student” was included, you would need to define how “success” would be measured (a GPA of at least 3.5; a score of 90 or higher on the AP test; graduation from high school; etc)

POPULATION: What group can the results of your experiment be applied to? (examples: Ardrey Kell High School seniors, left-handed males…) Note: these are not the actual people you would be testing (that is your sample) but instead it is the group of people your results should describe.

SUBJECTS and ASSIGNMENTS: Your subjects are the people (or animals) that you would actually test in your experiment. Together, your subjects are called your “sample.” In order for your results to be meaningful, your sample should be representative of the population as a whole. Your description of your subjects should include information about: a) approximate ages of subjects b) sex of subjects c) how subjects were chosen.For almost all experiments subjects should be chosen randomly – describe your process for randomly selecting subjects. d) how subjects were assigned to either the experimental or control groups. It is not enough to simply say that they were randomly assigned – describe your process for randomly assigning subjects.

MATERIALS: List everything that was used, including data sheets, special equipment, a building.

PROCEDURE: Explain EXACTLY how the experiment would be conducted. Be specific – don’t leave anything out. Good experimental research should be able to be replicated – you should give enough detail so that if you gave your directions to two different experimenters they would both do the exact same thing. The methods you describe should be appropriate for your research question.

ETHICS: Be sure to address the four ethical guidelines discussed in class. Also address what steps will be taken to ensure that your experiment does not violate the APA’s Ethical Standards.

RESULTS: What specific aspects of your experiment may affect the reliability of your results? Briefly describe the conclusions you would be able to reach if your experiment proved your hypothesis to be true.