Exercise 4

Types of Studies and Phrasing of Objective(s)

Introduction:

 While there are many types of studies in the whole realm of researches, there are a few that are more common encountered especially in the field of scientific studies. The type of study can be easily recognized based on how the variables in the study are treated and their relation to each other. For this exercise we will focus on the following types of studies: **time series, descriptive, correlational** and **cause­and­effect studies**. A good example of a **time series study** is ecological monitoring where single subjects or research units are measured repeatedly at regular intervals over time. **Descriptive studies** observe their target population or event and systematically collect data to render an accurate description or generalization. An example of this study is the colors and patterns on the wings of a particular species of butterflies. This can be the preliminary study that can lead to correlation and/or experimental studies depending on the data set. **Correlation studies** aims to determine presence of a relationship between two or more variables. **Cause and effect or experimental studies** is where a set of variables are kept constant while the other set of variables are being measured as the subject of the experiment. In an elaborate and extended research study it is more likely that it will be a combination of 2 or more types of study involving several variables.

 Once the variable(s) involved are clearly identified and their interaction(s) defined, it becomes easier to set the objective(s) and the methodology that will answer the study problem. Complex studies will usually involve several problems/questions that may require the presentation of general and specific objectives for that study.

Objectives:

1. To differentiate the general types of studies generally used in the field of biology.
2. To recognize studies that is a single or combination of several types of studies.
3. To formulate accurate objectives appropriate for the type of study conducted.
4. To develop examples of general and specific objectives.

Part 1: Review of variables of each type of study: (**On**­ observation and **Xn**­ intervention)

**Time series studies:**

 O1…… O2 ….. O3…… O4…… O5….. On

**Descriptive Studies:**

 O1

 O2

 O3

 On

**Correlation Studies:**

 O1 <­­­­­­­­­­­> O2

**Cause and Effect Studies:**

 O1 ­­­­­­­­­­> X ­­­­­­­­­­>O2

Instructions:

1. Each group should search for one journal article for each of the following study types:

1. Time series
2. Correlational
3. Cause-and-effect/Experimental
4. Causal-comparative

2. Summarize the journal article by providing short entries to the following parts:

a. Background of the study

b. Objectives

c. Significance

d. Methodology (flowchart/diagram)

e. Results and Discussion

f. Conclusion

3. Enumerate the variables and classify those in terms of the following:

1. Qualitative vs. quantitative
2. Nominal, ordinal, interval, or ratio

4. Make a diagram or a concept map showing the relationships of the variables

5. Provide justification for the appropriateness of the study design used, in relation to the research objectives and variables