

## Group Assignment #1: Concept Explication

1. **Preliminary identification of the concept.** Identify and name each concept your group is interested in examining. Questions to asked and answered: Is each concept a *variable* concept, and if so on what qualities does it vary? What is the unit of analysis for this concept? How does the concept fit into the research problem?

For each concept, ask and answer the questions before your literature search.

2. **Literature search.** Use various library resources to locate how previous researchers have used the concept. Do this for each concept you have identified. Once you have collected the literature, organize and structure it. Questions to asked and answered: What are the different conceptual meanings that have been assigned to the concept? What operational definitions have been used? What are the different labels under which the concept has been studied? Which of the various usages of the concept is most promising for your study?

For each concept, produce a half page summary of the results of your literature search.

3. **Empirical description.** Go back into the most promising studies and examine the properties of the operational definitions of the selected concept. Questions to asked and answered: What are the characteristics of the operationalization of the concept such as the mean, median, and mode and the range of variation? What antecedents and consequences of the concept have been observed in previous studies?

For each concept, explain how you think it relates to the other concepts you plan to study.

4. **Develop a tentative conceptual definition.** Use the literature search and your synthesis of the empirical description to develop a tentative conceptual definition of each concept. Questions to asked and answered: What are each concepts essential elements? What lower-order (less abstract) *dimensions* does this general concept subsume? What are instances or examples that could be developed into indicators of the concept? From the conceptual definition we should understand the boundaries of the concept and the conditions for observation.

Recognize that much trial-and-error and revision of definition are involved here.

5. **Develop a tentative operational definition.** Each dimension of the concept should be capable of direct observation. If possible, each dimension would have more than one empirical *indicator* (items or instances). The operational definition should include: the conditions of observation; details of question wording, rating scale, manipulation procedures etc.; and analysis procedures and statistical operations implied.

Go into the codebook and select the items that you think best represent the concept.

6. **Data gathering.** The concept and its operational definition then should be included in actual data collection. The data will be used in the second major phase of the explication process, *empirical analysis*. Associations or correlations among the indicators of the dimensions are studied along with the empirical relationships of the focal concept to other concepts. This final step will be conducted later in the semester.

## GLOSSARY

***Abstractness***: A characteristic of scientific concepts. It refers to the degree to which a concept is distanced from some specific events or phenomena observed at some particular time and place, or to the range of objects or subjects whose characteristic is represented by the concept.

***Antecedent***: Events or phenomena that occur before some other events or phenomena and impact on the latter. They are sometimes called antecedent variables.

***Clarity in meaning***: A characteristic of scientific concepts. It refers to the degree to which its intended meaning is clearly stated and conveyed. It also refers to the degree to which clarity is achieved in a specific use of a concept.

***Class concept***: A concept that denotes some collection of objects or subject by summarizing the communalities among them.

***Concept***: A term or phrase used to identify an object or subject, or to represent a common characteristic of a class of object or subjects. They are the building blocks of thought and theory.

***Concept explication***: The process by which abstract concepts are linked to their real world variations so that they can be observed by appropriate methods. Logically, it involves both deductive and inductive reasoning. It can be further divided into meaning analysis and empirical analysis.

***Conceptual definition (theoretical, constitutive)***: Involves verbal descriptions of the essential properties that are to be included in the intended meaning of a concept. In research practice, it often specifies various dimensions of a concept.

***Consequence***: Events or phenomena that occur after the events or phenomena under consideration and are affected by them. They are often called consequent variables, or more simply, effects.

***Dependent variable***: In either theoretical statements or research hypotheses, it is the variable concept whose fluctuation (variation) is to be explained. It is assumed to be affected by the independent variable to which it is linked by a relational statement.

***Dimension (sub-concept)***: Distinguishable components of a more abstract concept that have higher levels of coherence than has the concept. Various dimensions of a concept may have different antecedents and consequences and thus theoretical statements must be stated for the constituent dimensions rather than for the more abstract concept.

***Empirical analysis***: Statistical and logical procedures involved in using research data to evaluate the quality of conceptual and operational definitions of a concept.

***Epistemological relationship***: The conceptual linkage between an abstract concept and its real world referents (indicators), which could be a specific object or subject, a class of objects or subjects, or observable variations of a characteristic across a class of objects or subjects.

**Explanation:** A set of logically organized statements specifying why and how some observed events or phenomena have occurred. Because it lays out the specific conditions under which conceptually similar phenomena occur, it can be used to derive various specific predictions.

**Extension:** The opposite of intention. It refers to the conceptually constructed linkages between a concept and its real world referents.

**Independent variable:** In either theoretical statements or research hypotheses, it is variable concept used to explain fluctuation (variation) in the dependent variable. It is assumed to affect or influence the dependent variable to which it is linked by a relational statement.

**Indicator:** Concrete observable behaviors (*etc.*) indicating a concept or a dimension. It is concrete in that it can be directly or indirectly recorded by some research technique. Its epistemological relationship with the concept is that it is assumed to be invariant within some specified range of time, space and domain.

**Manipulation:** Procedure in experimental research where different inductions (e.g., message forms, instructions) are given to randomly assigned sets of subjects to estimate differences in response in some measured or observed dependent variable.

**Meaning analysis:** Logical and epistemological procedures used in developing conceptual and operational definitions of a concept. Along with empirical analysis, it comprises the iterative process of concept explication.

**Measurement:** Assignment of values (numbers or symbols) to units of observation according to rules. The rules are those specified in the operational definitions and reflect standards used by scientists or scholars in a given field. Measurement includes nominal or categorical assignment as well as more powerful forms: ordinal, interval and ratio measurement.

**Meta-concept:** A composite concept representing multiple characteristics of a class of object or subjects, often filled with affect and/or values. It can be decomposed into several concepts (e.g., democracy into a class concept representing a type of political system, or into a variable concept indicating the degree to which democratic ideals are practiced).

**Null hypothesis:** A statistical statement that asserts that there is no relationship between the variables in the research hypothesis, or more precisely than any relationship or difference shown is simply due to chance or sampling error.

**Observation:** The recording of data from observational units pertinent to a given variable and compatible with its operational definition. Used very broadly and well as specifically applied. Specifically, it is a research method where an observer records data either as a non-participant (e.g., scores group interaction) or as participant in studying a group over time while playing some role in their lives. More broadly, it refers to the various forms of obtaining data from observational units: direct observation, interviews, self-administered questionnaires, *etc.*

**Observational unit:** The collection of singular objects that we actually observe. They may or may not correspond to the units of analysis in any research project. Where they do not correspond, the data obtained from the observational units may be aggregated to provide measures of variables for the units of analysis.

**Operational definition:** Procedures by which a concept is to be observed (as in participant observation), measured (as in sample surveys), or manipulated (as in experiments). It details the rules, specific steps, equipment, instruments, and scales involved in measuring (*etc.*) a concept. All three types of operational procedures can be generally called either observation or measurement, using these two terms in their broadest sense.

**Operationalizability:** A characteristic of scientific concepts. It refers to the degree to which the linkage between the concept and its real world referents can be specified and its variation across a class of objects or subjects can be observed in the real world.

**Operationism:** A doctrine about scientific research which holds that the only fruitful and valid meaning of a concept is its measurement or operational procedure, nothing more and nothing less.

**Precision:** A characteristic of scientific concepts. It refers to the degree to which the concept is precisely measured and its intended meanings is agreed upon by communicators (scientists) and receivers (consumers of scientific research or policy makers).

**Prediction:** A statement about the likelihood that some specific event or phenomenon will occur in some designated future time.

**Premise (assumption):** Propositions that supply the reasons for a theoretical statement. Premise is a term from symbolic logic; two or more premises are needed to draw a logical conclusion. Assumption is its synonym when applied more generally in theory and research. Assumptions should be testable with empirical evidence and often they are based on a considerable body of evidence from previous research. Assumptions are distinguished from postulates, which are more abstract untestable statements about human nature, world views value statements, *etc.*

**Primitive term:** Word or phrase whose meaning is widely shared and incapable of further definition except by using synonyms. They are used to define other theoretical terms in a theory.

**Referent:** Conceptual implied and empirically observable counterparts of a concept in the real world.

**Relational concept:** A concept that makes connections between other forms of concepts. The connections can be comparative (e.g., larger than, as long as) associative (e.g., positively related, negatively related), or causal (e.g., leads to, caused by).

**Research hypothesis:** Assertions about the relationship of two or more variables stated as concrete operational definitions. Their relationship is predicted from the logic contained in the corresponding theoretical statement and in the explication of the variables contained in the statement. A research hypothesis is stated before the empirical evidence is examined. The assertion describes the nature and/or the magnitude of the relationship.

**Scientific concept (construct):** A concept that has been consciously invented, constructed or adopted for purposes of theory building and research. It should be clearly defined and may be broken down into less abstract (more specific) dimensions. It should meet four standards: abstractness, clarity in meaning, operationalizability and precision.

**Singular concept:** A concept that denotes some particular object or subject.

**Theoretical statements:** Assertions about the relationship of two or more relatively abstract variable concepts or their dimensions connected by a relational statement. They should be clear as to the units of analysis of concern and the conditions under which the statement should hold.

**Theory:** An organized explanation of some recurrent phenomena of research interest. It is a collection of (1) theoretical statements about the relationship between two or more variable concepts or their dimensions within a domain or collection of units of analysis under specified conditions; (2) the premises or assumptions providing the reasoning behind the theoretical statement; (3) two or more variable concepts and their conceptual and operational definitions; and (4) specific research hypotheses connecting operational definitions of the concepts included in the theory.