

# Research Design

- Topics to be covered.
- Meaning definition purpose and components of research design.
- Difference between research methods and methodology.
- Research proposal- its meaning and need

# Research proposal -- need

1. Identification of research topic: source and need.
2. Review of related literature.
3. Rationale and need for the study.
4. Definition terms.
5. Variables.
6. Research question, objectives and hypotheses.

7. Assumptions.

8. Scope, limitations and delimitations.

9. Method, sample and tools.

10. Significance of study.

Technique for data analysis.

12. Bibliography.

13. Time frame.

14. Budget.

15. Chapterisation.

# Variables

- When conducting experiment, one needs to deal with variables, those factors or elements that are likely to vary or change. A typical study has an independent variable and a dependent variable.

- The independent (or manipulated) variable is something that the experimenter purposely changes or varies over the courses of the investigation.
- The dependent (or responding) variable is the one that is observed and likely changes in response to the independent variable.

- A student might change the position of a plane wing to see how it affect the average speed of a model plane. The wing position would be the independent variable- because the student purposely changes its locations. The average speed would be the dependent variable since the average speed would depend on the location of the wing.

- When conducting an experiment, all other variable must be kept the same throughout the investigation; they should be controlled. The variables that are not changed are called controlled variables.

# Independent Variables (IV) and Dependent Variables (DV)

- In an experiment, the IV is the variable that is varied or manipulated by the researcher.
- An independent variable is the presumed cause.
- IV is the antecedent.
- : In nonexperimental research. Where there is no experimental manipulation, the IV is the variable that ‘logically’ has some effect on a DV. For example, in the research on cigarette-smoking and lung cancer, cigarette-smoking, which has already been done by many subjects, is the independent variable.” (Kerlinger, 1986, p.32)

- When researchers are not able to actually control and manipulate an IV, it is technically referred to as a status variable (e.g., gender, ethnicity, etc.). Even though researchers do not actually control or manipulate status variables, researchers can, and often do, treat them as IVs (Heppner, Kivlighan & Wampold, 1999).

# Depends Variables (DV)

- The depends variable is the response that is measured.
- The depends variable is the presumed effect.
- Whereas the DFV is the consequent.
- The DV is not manipulated, instead the DV is observed or measured for variations as a presumed result of the variation in the IV.

- “The DV refers to the status of the ‘effect’ (or outcome) in which the research is interested; the independent variable refers to the status of the presumed ‘cause’, changes in which lead to changes in the status of the dependent variable... any event or conditions can be conceptualized as either an independent or a dependent variable, For example. It has been observed that rumor-mongering can sometime cause a riot to erupt, but it has also been observed that riots can cause rumors to surface. Rumors are variables that can be conceived of as causes (IVs) and as effects (DVs).” (Rosenthal & Rosnow, 1991, p.71)

# Examples of Independent and Dependent Variables

- “ There will be a statistically significant difference in graduation rates of at-risk high-school seniors who participate In an intensive study program as opposed to at-risk high-school seniors who do not participate in the intensive study program.” (LaFountain & Bartos, 2002, p. 57)

- IV: Participation in intensive study program. DV: Graduation rates.
- “ A director of residential living on a large university campus is concerned about the large turnover rate in resident assistant. In recent years many resident assistants have left their positions before completing even 1 year in their assignments. The director wants to identify the factors that predict commitment as a resident assistant (defined as continuing in the position a minimum of 2 years). The director decides toward residential policies, and ability to handle conflicts as predictors for commitment to be the position.”
- (LaFountain & Bartos, 2002, p 8)

- IV: Knowledge of position, attitude toward policies, and ability to handle conflicts. DV: commitment to position (continuing in position for 2 years or not continuing)

# References

- Heppner, P.P. Kivlighan, D. M.Jr., & Wampold, B.E. (1999). Research design in counselling(2<sup>nd</sup>ed.)New York: Brooks/cole.
- Kerlinger, F.N.(1986).Foundations of behavioral research(3<sup>rd</sup> ed.).Fort Worth: Holt , Rinehart and Winston , Inc.
- Lafountain, R.M., & Bartos, R.B. (2002). Research and Statistics made meaningful in counseling and student affairs. Pacific Grove, CA: Brooks/Cole.
- Rosenthal, R., & Rosnow, R.L. (1991). Essentials of behavioral research: Methods and data analysis (2<sup>nd</sup> ed.). New York: McGraw- Hill, Inc.