Lecture: 22

Why do a review of research

- Assessment of the current state of research on a topic
- Identification of the experts on a particular topic
- Identification of key questions about a topic
- Determination of methodologies used in past studies of the same or similar topics.

Lecture: 23

An author basically looks for *eight* things when summarizing the main body of the study

1. The focus of the study
2. The research question
3. The hypothesis
4. The size of the sample and important characteristics such as age and gender
5. The variables in the study such as:
   - Observational
   - Independent
   - Dependent
   - Moderating
6. The procedures followed
7. The conclusion(s) that the researcher draws from the findings
8. Any other observations you have made

Lecture: 24

Outline for the review of research/ Criteria for the main body of the text

I. Introduction

- The research question that your review addresses.
- The importance of the topic.
- Historical background of the topic (theory, methodological issues, previous reviews, etc.).
- The goal of your review. How you plan to add to the theory and information already available.

II. Method section: Details regarding the makeup of the review.

- What years are covered?
- What preliminary sources were used to locate the studies?
- What keywords guided your search?
- Criteria for deciding which studies to review.
  - Description of the constraints that limited your selection.
  - Rationale for choosing these constraints.
- What studies were excluded and why?

III. Results section: Studies summarized.

- An overview of what studies will be discussed and their relation to one another and the review as a whole.
- At least one paragraph for each study summarizing the following:
  - The main point of the study.
  - The question(s)/hypothesis being studied.
  - Samples used and how they were chosen
  - Procedure(s) used
  - General findings (results).
  - Author's interpretations/applications of the findings.

- Any concerns to which you might want to alert the reader.

IV. Discussion section

- Give an overview of major results of your review.
- Compare/contrast the results between studies.
- Provide possible reasons for any differences.
- Relate results to any theoretical issues you mentioned in the introduction.
- Compare with past reviews if any exist.
- Explain any difference in findings with past reviews.
- Offer application of findings toward future research.

Preparing your own review of research literature

You are to review whatever number of studies you find relevant in the space allowed. You are to develop an overall picture of what is being studied in your chosen area.

Lecture: 25

Quantitative research has come mainly from the field of psychology, where there has been heavy emphasis on the use of statistics to make generalizations from samples to populations. It is characterized by the use of numbers as its data.

It produces numerical data and hard facts. It aims at establishing cause and effect relationship between two variables by using mathematical, computational and statistical methods. The research is also known as *empirical research*.

Qualitative research has originated with anthropologists and sociologists who rely heavily on verbal description rather than numbers. It is characterized by verbal descriptions as its data.

It is used to gain an in-depth understanding of human behavior, experience, attitudes, intentions, and motivations, on the basis of observation and interpretation. The researcher gives more weight to the views of the participants.

Misunderstanding regarding the differences between qualitative and quantitative approaches

- Qualitative research does not use any numbers or statistics
- Qualitative is a theoretical, whereas the quantitative is not

Case study is done to shed light on a phenomenon, which is the processes, events, persons, or things of interest to the researcher. Examples of phenomena are programs, curricula, roles, and events. Once the *phenomenon* of interest is clarified, the researcher can select a *case* for intensive study. A *case* is a particular instance of the *phenomena*.

Lecture: 26

Dimensions of qualitative methods

- Understanding context
- Understanding people
- Understanding interaction

Terms used in qualitative data analysis:

- Theory: a set of statements that is developed through a process of continued abstractions
- Characteristic: a single item or event in a text
- Coding: the process of attaching labels to lines of text
- Coding sorts: compilation of similarly coded blocks of text

Important concepts in designing qualitative research

- Natural setting
- Holism
- Human as a research instrument
- Redundancy

Steps in qualitative data analysis

1. Organize the data
2. Identify a Framework
3. Sort data in to Framework
4. Use Framework in descriptive analysis
5. Second order analysis

Types of qualitative data analysis (QDA)

- Content analysis - procedure for categorization of verbal data for the purpose of classification, summarization
- Narrative analysis - to reformulate stories presented by people in different contexts
- Discourse analysis - analyzing a naturally occurring talk and all types of written texts
- Framework analysis - Transcribing & reading the data
- Grounded theory

Lecture: 27

Traditional qualitative data analysis: a labor-intensive process

Traditionally, qualitative data analysis used to be labor intensive. Researchers were used to record the source material with a word processor. They used to make multiple photocopies of the text.

Advantages of using computer software in qualitative studies

- Search and retrieval of data
- Transcribing data
- Editing the data
- Easy storage of data
- Coding data
- Graphic mapping
- Preparing reports

Considerations while choosing the computer software for your study

- Theoretical approaches to analysis
- Type and amount of data
- Time to analyze
- Level of analysis
- Any cost constraints
- Individual or working as a team

Basic steps in using software

- Install the program
- Learn the operation
- Prepare a source document
- Open a project
- Import text, audio, video, picture

- Read the imported text documents
- Select the segment of the text
- Insert codes
- Mapping of concepts
- Producing reports

Common software for qualitative data analysis

- Atlas ti 6.0
- Max QDA
- Weft QDA
- QSR N6
- QSR Nvivo

Lecture: 28

Definition & features of action research

- Mainly an applied research
- A kind of personal research
- Both individual and group problems
- Studying practical problems of education
- Finding out a practical solution of problems
- Improve and modify the current practices

Steps in action research

- Selection of problem
- Formulation of Hypotheses
- Design of research
- Collection of data
- Analysis of data
- Formulation of conclusions

Lecture: 29

Survey method

- It is the commonly-used method of collecting information
- A survey consists of a formal list of questionnaire
- Firstly, every survey asks about demographic interests
- Population of interest is always preferred in survey method
- Mostly large cases
- Mostly cross-sectional study

Cross-sectional studies - researchers record information about their subjects without manipulating the study environment. A fresh sample of people each time they are carried.

Longitudinal studies - researchers conduct several observations of the same subjects over a period of time, sometimes lasting many years.

Purpose and uses of survey method

- Describing 'what is'?
- Assessing magnitude
- Guiding about the planning
- Evaluating control activities
- Community perception

Steps in survey research

1. Know what exactly do you want?
2. Determine the target population
3. Choose the mode of data (Direct + mail + phone + personal interview)
4. Select the sample
5. Prepare instrument
6. Write any memo or letter?
7. Train the interviewers
8. Recheck carefully before you start your research

Lecture: 30

Experimental method - a systematic and scientific approach to research in which the researcher manipulates one or more variables, and controls and measures any change in other variables.

Experimental research as a scientific method

- Deriving verified functional relationships among phenomena
- Variation (effect) on a dependent variable
- Formal treatment is carried
- An experiment is conducted
- Pure and quasi experimental

The law of single variable

This law states that if two situations are equal in all respects except for an independent variable, any change between two situations can be attributed to the independent variable.

Types of Experimental Design

1. True experiments - in which all the important factors that might affect the phenomena of interest are completely controlled. Participants are randomly assigned.
2. Quasi-experiments - participants are not randomly assigned to either the treatment or the control group

Similarities between true and quasi-experiments:

- Study participants are subjected to same type of treatment
- Same outcome of interest is measured

Types of variables

- **Independent**
  - Provides a stimulus
  - Measured
  - The cause of change
  - Affect others
- **Dependent**
  - Responsible for the response/output
  - Observed to effect

- **Moderator – control – intervening**
  Moderator
  - Secondary independent variable
  - Modifying the relation

  Control variable in scientific experimentation is an experimental element which is constant and unchanged throughout the course of the investigation.
  Intervening variable is a hypothetical variable used to explain causal links between other variables

Example:
Among students of the same age and intelligence, skill performance is directly related to the number of practice traits particularly among boys but less directly among girls.

IV: Number of practice traits DV:
Skill performance
MD: Sex
CV: Age, intelligence
IntV: Learning

Procedures in experimental method
Basic principles of experimental design:

- Randomization:
  - Valid estimate
  - Experimental error
  - Minimize bias
  - Independence of variances
- Replication:
  - Repeated treatment
  - Increase precision
  - Estimate + reduces error
- Local Control:
  - Homogenous groups
  - Size + shape (S+G errors)

Characteristics of a good experimental design

- Observed treatment effects are unbiased
- Objective test of a specified hypothesis
- Minimum "cost"

Decisions to be made in *planning* the experiment

- Define the 'treatments'
- Selection of the population to be investigated
- Selection of a criterion
- Identification of the factors to be controlled
- Final restatement of the problem
- Selection of a specific experimental design

Various types of errors possible

- **Chance Error**
  - Individual differences
  - Sampling errors
  - Measurement errors

- **Systematic errors**
  - Researcher's bias
  - Hawthorne effect
- **Avoid errors**
  - Maximize variance (IV)
  - Control variance (EV)
  - Minimize error (random)

Major designs in experimental research

- **Simple random design**
  - Simple - treatment effects
  - Randomization at all levels
  - Eliminating 'subject' error
  - Choosing subject from population
  - Divided into groups of three
  - Assigned to a treatment
- **Treatment X level design**
  - Control over intra-subject
  - Stratified sampling technique
  - Equate the groups
- **Subject X treatment design**
  - All treatments to the same subjects
  - Eliminate inter-subject differences - 'subject' error
  - Precise than Simple Random Design/Treatment X Level design
- **Random replication design**
  - Basic experiment is replicated
  - Independent subject sample
  - Repeating experiment on sub-population
  - Each replication (different group)
- **Group within treatment design**
  - Large members of finite groups (education)
  - Each treatment to independent random sample
  - Establishing generalization
  - Eliminating contamination

Lecture: 31

Historical research - meaningful recording of past events. It depicts relationship between persons, events, times and places, studying the undergoing change and transformation.

Historical research – in education

- It helps educators understand problems and issues
- It accumulates knowledge
- It improves practices and policies

Primary sources of Historical research

- Read scholarly literature
- Discuss with your supervisor

Sources of historical data or evidences:

1. **Documents**
   - Official records
   - Institutional records
   - Personal documents
2. **Remains**
   - Building, furniture and equipment
   - Library and their furniture
   - Photographs and other records

Advantages of historical research

- Examining trends across time
- Applying lessons from the past to current problems
- Using the past to make predictions about the present
- Understanding present practices and policies in light of the past

Disadvantages of historical research

- Avoiding the mistakes of the past
- Very difficult to study historical events
- Serious decline due to scientific research

Lecture: 32

Case study - a research methodology that has commonly used in social sciences. A case study is a research strategy and an empirical inquiry that investigates a phenomenon within its real-life context. Case studies are based on an in-depth investigation of a single individual, group or event.

Features of a case study

- Case study can be on a person, group, institution, community or family
- Covers sufficient wide cycle of time
- Smaller number of units to be studied
- Both qualitative as well as quantitative
- Exploratory – basic initial data to identify
- Cumulative – pulling together information for greater amount of information

Types of case studies

- Cumulative Case Studies - Aggregate information from several sites
- Critical Instance Case Studies - Unique cases
- Exploratory (or pilot) Case Studies - For large scale studies
- Illustrative Case Studies - Typically utilizing one or two instances

Essential characteristics/Criteria of a good case studies

- Continuity
- Completeness of data
- Validity of data
- Confidential recording
- Scientific synthesis

Steps in a case study

- Unit of attention
- Collection of data
- Diagnosis and identification of casual factors
- Treatment
- Follow up program

Lecture: 33

Essential components of Article/Paper

1. Title
2. Author(s)
3. Abstract
4. Introduction
5. Methodology
6. Results
7. Discussion
8. References
9. Appendices

Type of article

- Primary research
- Review of literature
- Position paper - a written report outlining someone's attitude or intentions regarding a particular matter. It is similar to literature review.

Five essentials/nuts & bolts of abstract

1. Purpose of the study
2. Source(s) from where the data are drawn
3. The method(s) used
4. The general results
5. General interpretation of the results

Writing an Introduction to your study

- Why - important enough?
- Research questions + theory
- Hypothesis + predictions
- Constructs + special terms

Subsections of Methodology section

- Sample
- Research design
- Data-collection procedures
- Observational methods
- Procedures followed

Subsections of Result section

- Statistics
- Descriptive statistics
- Tables – graphs

- Qualitative (verbal) data

Lecture: 34

Components of well-designed research proposal

- The problem and statement of the problem
- The review of literature
- The hypotheses and objectives
- The methodology of the study
- Educational implications of the problem

- Bibliography
- Time frame

Criteria for evaluating proposal or synopsis

- Significance of the proposed research
- Quality of the proposed research
- Contextual, practical and national level significance
- Relation to previous work
- Likelihood of success

Lecture: 35

Tools for calculation and interpretation of the data

- EndNote
- TURNITIN

Common features of a scholarly source

- Reports original research
- Includes references
- Has multiple authors

Common features of a popular source

- Has a provocative title
- Presents a summary of research
- No consistent citation of sources

Avoiding plagiarism and taking notes

- Don’t use the language of your source (unless quoting directly)
- Don’t half copy
- Don’t plug your synonyms
- Prepare your own notes

Three ways to take notes

1. Summary
2. Quote
3. Paraphrase

Lecture: 37

Three acts are plagiarism

1. Failing to cite quotations and borrowed ideas
2. Failing to enclose borrowed language in quotation marks, and
3. Failing to put summaries and paraphrases in your own words

Details that are needed for citation

- Author's or editor's or organization's full names
- Title of article
- Version
- Name of publisher
- Year of publication
- Place of publication (for books only)

Three types of in-text references

- Harvard
- MLA
- APA

Lecture: 38

Literature as art – three fundamental Qs

- Textual scholarship
  The primary goal of the discipline of textual scholarship is the investigation of texts. Textual scholars attempt to understand how texts have come to be as they are and, in order to achieve this, they examine the primary sources of a text.
- Genre studies
  Genre means a type of art, literature, or music characterized by a specific form, content, and style. For example, literature has four main genres: *poetry*, *drama*, *fiction*, and *non-fiction*.
- Source studies

Characteristics of Fiction

- Fiction has three categories that are, realistic, non-realistic, and semi-fiction
- Fiction work is not real
- Authors can use complex figurative language to touch readers' imaginations
- Unlike poetry, it is more structured
- It comprises some important elements such as:
  - Plot
  - Exposition
  - Foreshadowing
  - Rising action
  - Climax
  - Falling
  - Action
  - Resolution

Characteristics of Non-Fiction

Non-fiction is a vast category that also has sub-genres; it could be creative like a personal essay, or factual, like a scientific paper. Examples of non-fiction include:

- Biographies
- Fantasies
- Diaries
- Memoirs
- Mysteries
- Journals
- Romances

Lecture: 39

Biographical criticism - a form of literary criticism which analyzes a writer's biography to show the relationship between the author's life and their works of literature.

Historical criticism: goals

- To strive to understand a literary text as a product of the social, cultural, and intellectual context in which it was created.
- To examine how the text was initially received by readers as well as how its reception has changed over time.
- To examine how the author's own experiences may be reflected in the text.

Moral Philosophical approach - means examining a work's ideas and values—both those expressed directly by the narrator or character and those implied by the overall design and content—in relation to a particular ethical, philosophical, or religious system.

Moral criticism: advantages

- Advantages: useful for works which do present an obvious moral philosophy
- Useful when considering the themes of works
- Does not view literature merely as "art"

Lecture: 40

Modern Language Association (MLA) - provides a method for source documentation that is used in most humanity courses.

Book citation in MLA generally requires:

- Author name
- Work title
- Publication city
- Publisher
- Year published
- Identification of the publication medium, such as print

Considerations for MLA

- Enclose borrowed language in quotation marks
- Put summaries and paraphrases in your own words
- Give full details of the source at the end
- Avoid intentional and unintentional plagiarism

MLA formatting

- Times New Roman
- Size: 12
- No title page
- Margins: 1” all sides
- Line spacing: double

Chicago Manual of Style (CMS) - a style of formatting written works that is most widely used in publishing.

Considerations for CMS

- Required by many history and humanities instructors
- Consult your advisor
- CMS citations consist of superscript numbers in the text
- Given at the foot of the page (footnotes) or at the end of the paper (endnotes)

CMS (Chicago) style

- Times New Roman
- Size: 12 (not specific)
- Full title page
- Margins: 1” all sides

…….