

# Quantitative and Qualitative research

## Quantitative Research

- A type of educational research in which the researcher decides what to study.

## Qualitative Research?

- A type of educational research in which the researcher relies on the views of the participants.




# What are the characteristics of each?

## Quantitative Research

- Ask specific narrow Qs.
- Collects data from participants.
- Analyzes numbers using statistics.
- Conducts the inquiry in unbiased, objective manner.

## Qualitative Research

- Ask broad, general Qs.
- Collecting data consisting largely of words (text) or image (picture).
- Descriptions and analysis of words for themes.
- Conducts inquiry in subjective, biased manner.



What are the differences between  
the  
two in each step?

# 1. Identifying a research problem.

## Quantitative Research

- Description of trends or an explanation of variables' relationships.

## Qualitative Research

- An exploration in which little is known about the problem.
- A detailed understanding of a central phenomenon.



## 2. Reviewing the literature

### Quantitative Research

- Major role through suggesting the RQ to be asked.
- Justifying the R problem and the need for the direction of the study.

### Qualitative Research

- Minor role in suggesting SRQ to be asked.
- Justify the importance of studying the research problem.

# 3. Specifying a purpose for the research

## Quantitative Research

- Be specific and narrow.
- Seek measurable, observable data on variables.

## Qualitative Research

- Be general and broad.
- Seek to understand the participants' experiences.

# 4. Collecting data

## Quantitative Research

- Collecting data using instruments with preset Qs and Res.
- Collecting info from a large number of individuals.

## Qualitative Research

- Collecting data using forms with general, emerging Qs to permit the participant to generate responses.
- Gathering word(text) or image(picture) data.
- Collecting info from a small number of individuals or sites.



# 5. Analyzing and Interpreting data

## Quantitative Research

- Data analysis tends to consist of statistical analysis.
- Describing trends, comparing group differences, relating variables.
- Interpretation tends to consist of comparing results with prior predictions and past research.

## Qualitative Research

- Text analysis.
- A description of themes.
- Stating the larger meaning of findings.


# 6. Reporting and Evaluating research

## Quantitative Research

- Tend to use standard fixed structure and evaluation criteria.
- Take an objective and unbiased approach.

## Qualitative Research

- A flexible, emerging structure and evaluative criteria.
- Take a subjective and biased approach.



What are the research designs  
associated with quantitative  
and qualitative research?



# Research Designs?

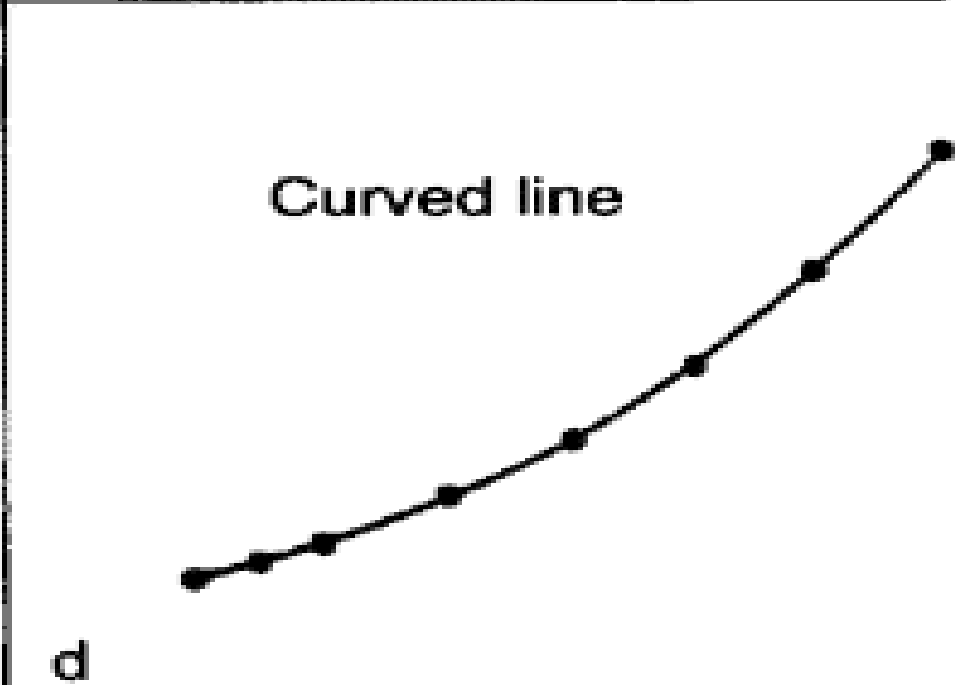
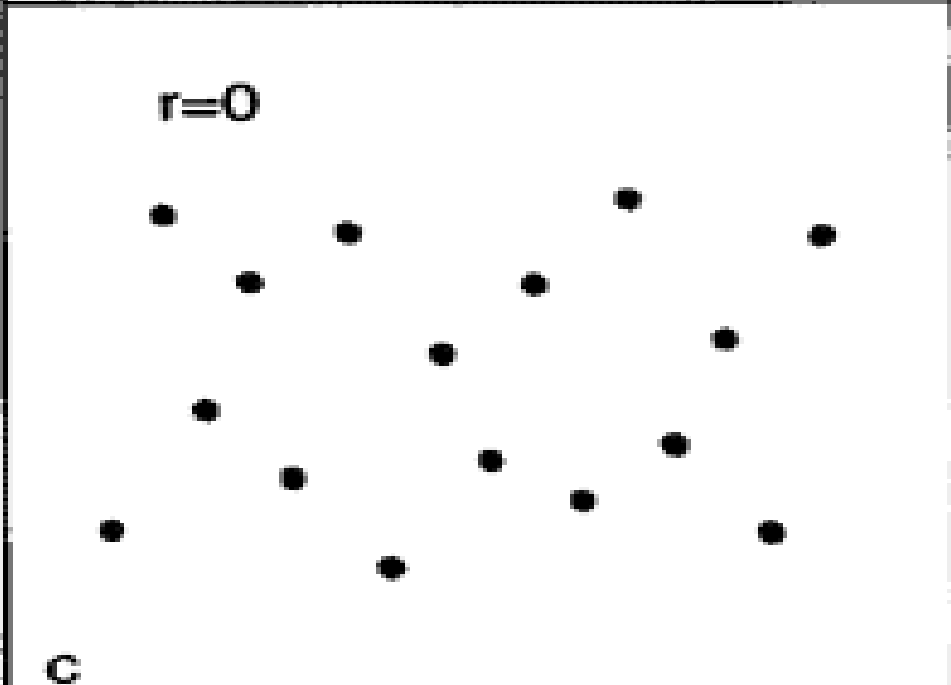
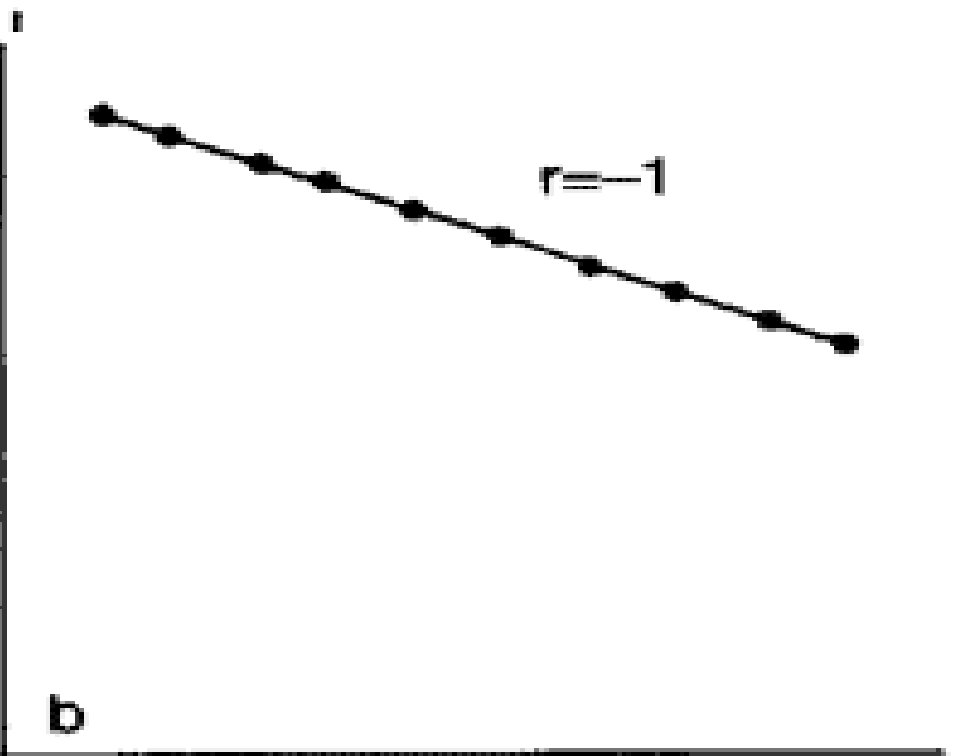
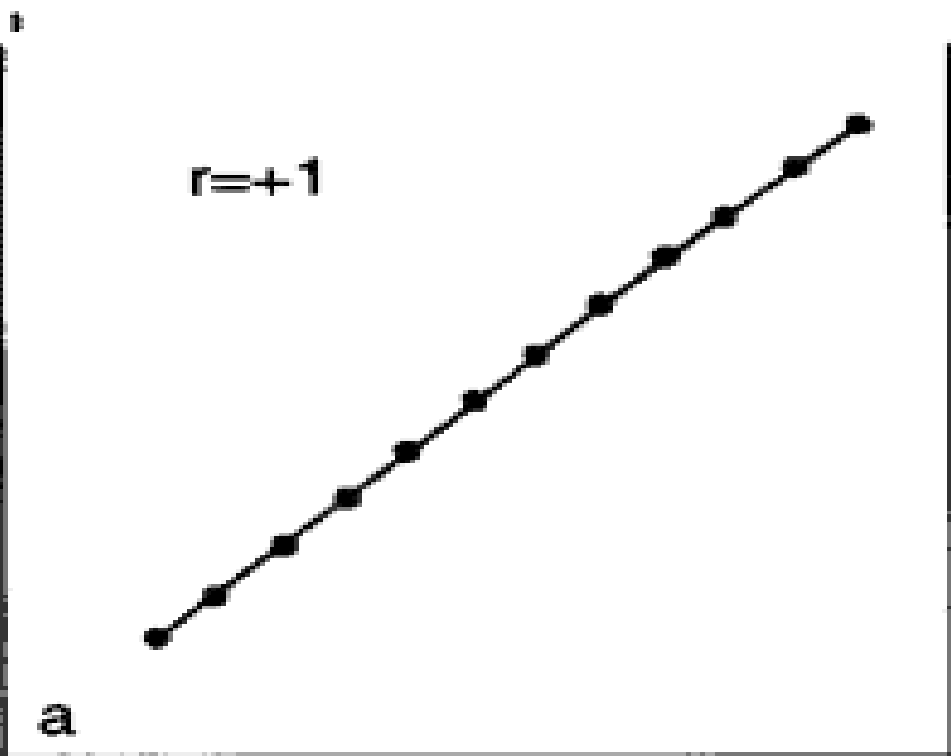
Research designs are the specific procedures involved in the last three steps of the research process: data collection, data analysis and report writing.

# Experimental Designs

- An independent variable is manipulated and one or more dependent variables are controlled to see the effect of the independent variable on the dependent variable(s).

# Correlational Designs

- Looking for relationships between things, even if we don't have a theory to explain them
- “fishing expedition” research - looking for what affects what, trying to find the components for a theory





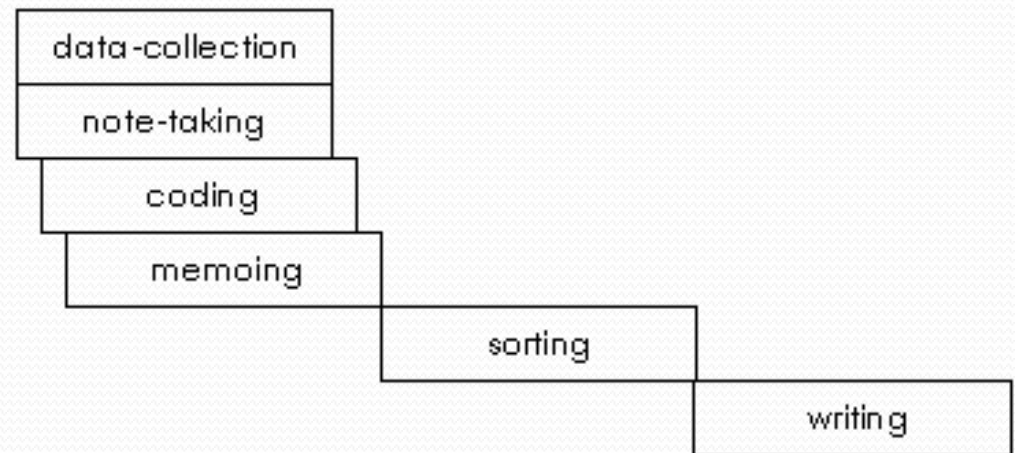
# Survey Designs

This involves administration of an instrument to collect data regarding characteristics of a group.



# Grounded Disgns

- theory that is developed inductively from a corpus of data
- Is case-oriented; no hypothesis is tested
- Interviews & other data collection can be used
- “constant comparison”  
data set  $\leftrightarrow$  theory



(Source:

<http://www.scu.edu.au/schools/gcm/ar/arp/grounded.html>)

# Ethnographic designs

- “The study and systematic recording of human cultures; *also* : a descriptive work produced from such research
- Field work; observation, interviews, questionnaires, producing description
- Often related to **social constructivism**: how do people make sense of their world; how do they accomplish things through their practice?
  - Source: Wikipedia



Thank you

# Narrative Research Designs

- In form of stories that describe the lives of individuals and their experiences.

# Mixed Method Studies

- Some studies use mixed methods to collect and analyze data...both quantitative and qualitative. For example, a person might do a quantitative survey and follow it up with qualitative interviews or focus groups. Again, the question dictates the method.



# Action Designs

- disciplined inquiry into practices undertaken by those involved in them
- done to inform and change the practice studied. To address problems
- Often undertaken as a collaborative activity among colleagues
- Often undertaken *in situ*
- Could focus on a single issue in a classroom, a program, etc.


# Action Designs

- a cycle of posing questions, gathering data, reflection, and deciding on a course of action
- Source: [http://www.alliance.brown.edu/pubs/themes\\_ed/act\\_research.pdf](http://www.alliance.brown.edu/pubs/themes_ed/act_research.pdf)
- Source: [http://en.wikipedia.org/wiki/Participatory\\_action\\_research](http://en.wikipedia.org/wiki/Participatory_action_research)



How do you choose which type  
of research to use?



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- Match your approach to your research problem
  - Fit the approach to your audience.
  - Relate the approach to your experience.