Quasi-Experimental Designs

Strategies for Educational Inquiry

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Identifying Research Designs

- **Cause-Effect Relationship?**
  - Yes
    - Exogenous variable manipulated?
      - Yes: Experimental
      - No: Causal Comparative
  - No: Relationship Prediction?
    - Yes: Correlational
    - No: Descriptive
Why use Quasi - Experimental Designs?

- Difficulty in applying experimental methods to social science.
- Over emphasis on theory testing and development (theoretical vs applied research).
- High cost of experimental methods.
- Development of statistical tools that enable statistical control.
Causality:
Quasi - Experimental Designs?

- As stated in the preceding slide, these designs are used when it is not possible to control all potentially confounding variables.
- Stated differently, these designs are used because participants cannot be randomly selected or randomly assigned to groups.
- Causal explanations are possible, but only if the researcher collects data that demonstrate that plausible rival explanations are unlikely.
Types of Quasi - Experimental Designs (a)

- Time-series designs.
- Equivalent time-series samples
- Equivalent samples, materials design
- Non-equivalent control group
- Counterbalanced designs
Types of Quasi-Experimental Designs (b)

- Separate sample pre-test / post-test
- Separate sample pre-test / post-test control group
- Multiple time series design
- Institutional cycle design
- Regression-discontinuity design
Quasi - Experimental Designs: Comparison Group Pre-test / Post-test Design

- In quasi-experimental design, statistical controls are substituted for the absence of physical control of the experimental situation.
- Most common quasi-experimental design: Comparison Group Pre-test / Post-test Design.
- Design is same as the controlled experimental design, except:
  - Subjects cannot be randomly assigned to either control or treatment groups, or
  - Researcher cannot control which group receives treatment.
Quasi - Experimental Designs: Comparison Group Pre-test / Post-test Design

- In other words, all subjects do not:
  - have the same chance of being in the control or experimental group, or
  - of receiving or not receiving the treatment.

- Our most effective methods of controlling extraneous variables are absent.
Quasi - Experimental Designs: Comparison Group Pre-test / Post-test Design

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<th>O₁</th>
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<tr>
<td>Control</td>
<td>O₁</td>
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Example: Comparison Group Pre-test / Post-test Design

This design can be illustrated by the following research to determine whether a voucher program for poor rural students increases their academic performance.