Quasi-Experimental Designs

Y520
Strategies for Educational Inquiry

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Identifying Research Designs

Cause-Effect Relationship?
Yes
No

Exogenous variable manipulated?
Yes
Experimental
No
Causal Comparative

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
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.

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

<table>
<thead>
<tr>
<th>Treatment</th>
<th>O₁</th>
<th>X</th>
<th>O₂</th>
</tr>
</thead>
<tbody>
<tr>
<td>Control</td>
<td>O₁</td>
<td>O₂</td>
<td></td>
</tr>
</tbody>
</table>

#### 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.