Improving Designs for Description

Y520
Strategies for Educational Inquiry

Pre-experimental Designs for Description

■ Case study design
■ One-group, post-test only
■ One-group, pre-test / post-test design
■ Non-randomized comparison group, pre-test / post-test design
■ One-group time series design
How to improve: 
**Case study design**

Original Design:
“Treatment” \( \times \) \( O_2 \)

Improved Design:
Campbell & Stanley offer no way to improve this design. There is no basis for comparison and no way to ensure equivalence of groups that might be used in a comparison.

How to improve: 
**One-Group, Post-Test Only Design**

Original Design:
Treatment \( \times \) \( O_2 \)

Improved Design:
Treatment \( \times \) \( O_2 \)

Control \( O_2 \)

Add control group. Random assignment of Ss to groups.
How to improve:
One-Group, Pre-Test / Post-Test Design

Original Design:

| Treatment | O₁ | X | O₂ |

Improved Design:

| Treatment  | O₁ | X | O₂ |
| Control    | O₁ | X | O₂ |

Add control group. Random assignment of Ss to groups.

How to improve:
Non-randomized comparison group, Pre-Test / Post-Test Design

Original Design:

| Treatment | O₁ | X | O₂ |

Improved Design:

As above, except random assignment of Ss to groups.
How to improve:
One-group time series design

Original Design:
\[ O_1 \quad O_2 \quad O_3 \quad O_4 \quad O_5 \quad X_1 \quad O_6 \quad O_7 \quad O_8 \quad O_9 \]

Improved Design:
\[ O_1 \quad O_2 \quad O_3 \quad O_4 \quad O_5 \quad X_1 \quad O_6 \quad O_7 \quad O_8 \quad O_9 \]
\[ O_1 \quad O_2 \quad O_3 \quad O_4 \quad O_5 \quad O_6 \quad O_7 \quad O_8 \quad O_9 \]

Add a control group and randomly assign subjects to groups.