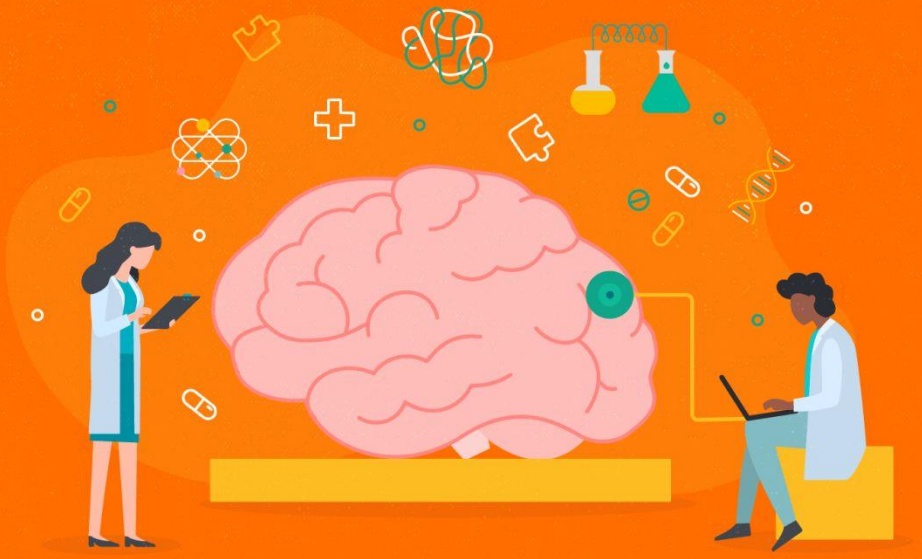
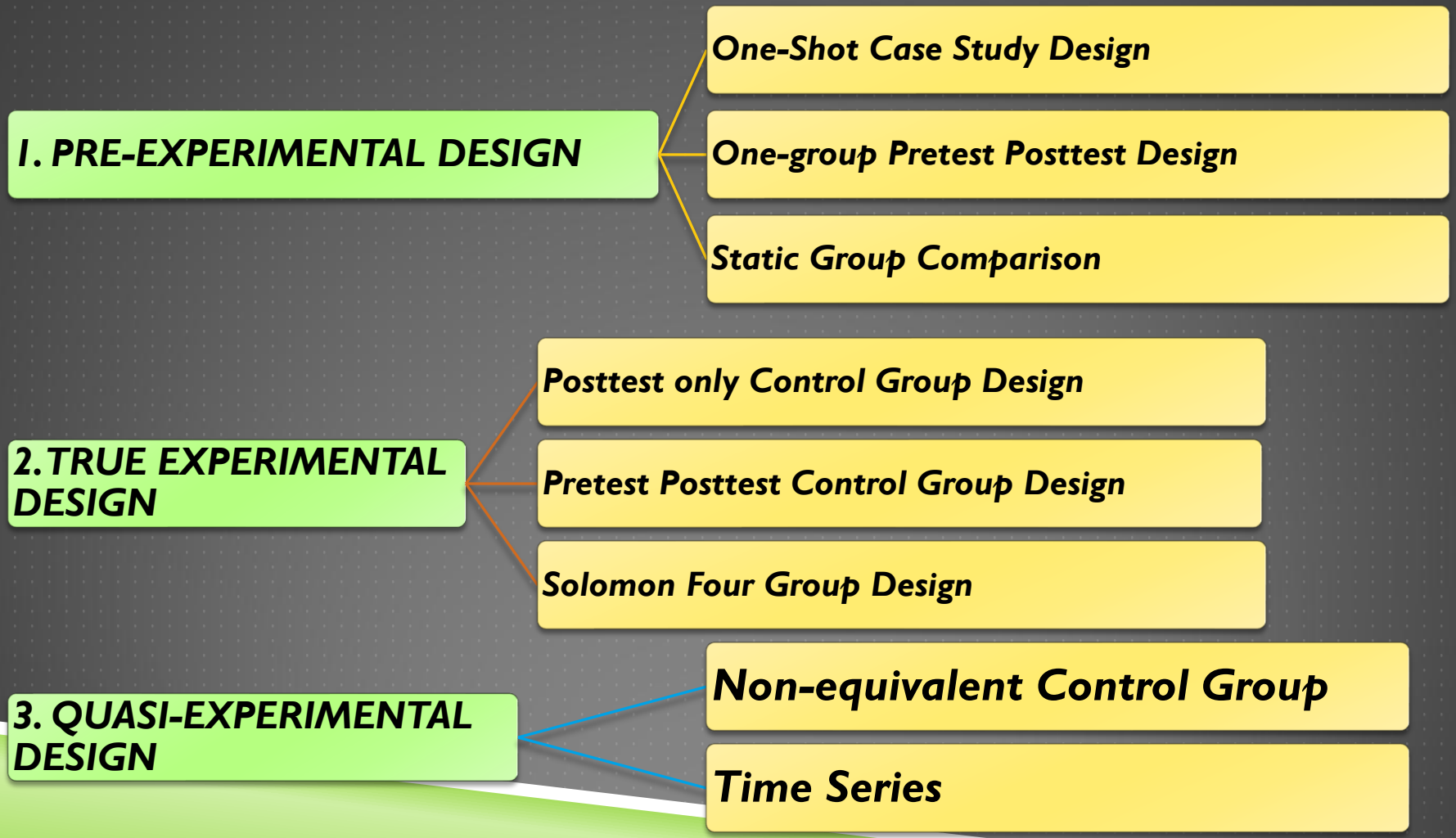


PSY 205- RESEARCH METHODS-I

EXPERIMENTAL RESEARCH DESIGN

EXPERIMENTAL RESEARCH DESIGN



1. PRE-EXPERIMENTAL DESIGN

- ***One-Shot Case Study Design***
- ***One-group Pretest Posttest Design***
- ***Static Group Comparison***

- Pre-experimental designs - the simplest form of research designs.
- Considered "pre-," indicating they are prerequisite to true experimental designs.
- **No randomization procedures** are used to control for extraneous variables!

ONE-SHOT CASE STUDY DESIGN

Selected experimental group

TREATMENT

POST-TEST

ONE-SHOT CASE STUDY DESIGN

Example: the effects of counseling sessions on the attitudes of identified bullies in school.

Experimental Group		***Treatment (X)***		***Posttest (O_2)***
Bully students		***Counseling***		***Observation***

Pretest – O_1 Posttest – O_2 Treatment – X Randomization – R Control Group - C

ONE-GROUP PRETEST-POSTTEST DESIGN

Selected experimental group

PRE-TEST

TREATMENT

POST-TEST

ONE-GROUP PRETEST-POSTTEST DESIGN

Example: You want to determine whether praising primary school children makes them do better in Mathematics.

Pretest – O_1 Posttest – O_2 Treatment – X Random Assignment – R Control Group - C

ONE-GROUP PRETEST-POSTTEST DESIGN

Example: You w… to determ… …ising …mary school children r… …hem… …tics.

Experimental G… …osttest(O_2)

Pri…

Maturation: Period between pretest and posttest is long so subjects may have matured because of developmental changes.

Testing: period between the pretest and the posttest is too short and there is the possibility that subjects can remember the questions and answers.

Pretest – O_1 Posttest – O_2 Treatment – X Random Assignment – R Control Group - C

The Impact of a Health Education Program on Awareness Levels

Research Question: Does a health education program increase individuals' awareness of healthy eating?

Sample: 30 participants. – **TEK GRUP!!**

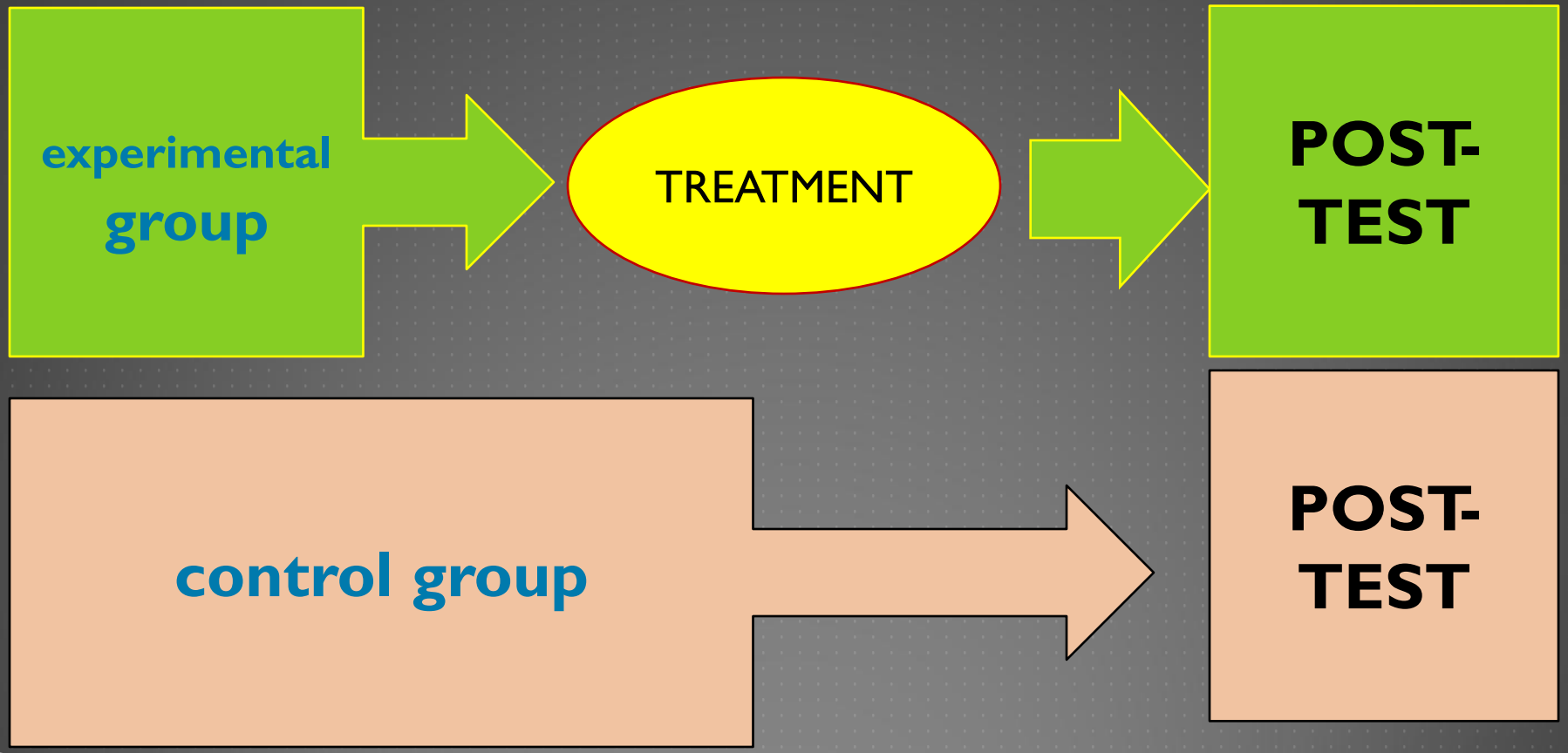
Pretest: Participants are given a questionnaire before the education program, and their awareness of healthy eating is measured (scored between 0-100).

The group's average score is found to be **60**.

Intervention (Education Program):
Participants undergo a 2-week health education program.
Posttest: The same questionnaire is administered again after the education program, and healthy eating awareness levels are re-measured.

The average score is found to be **80**.

STATIC GROUP COMPARISON



NO RANDOMIZATION!!

STATIC GROUP COMPARISON

Example: Determine whether praising primary school children makes them do better in Mathematics.

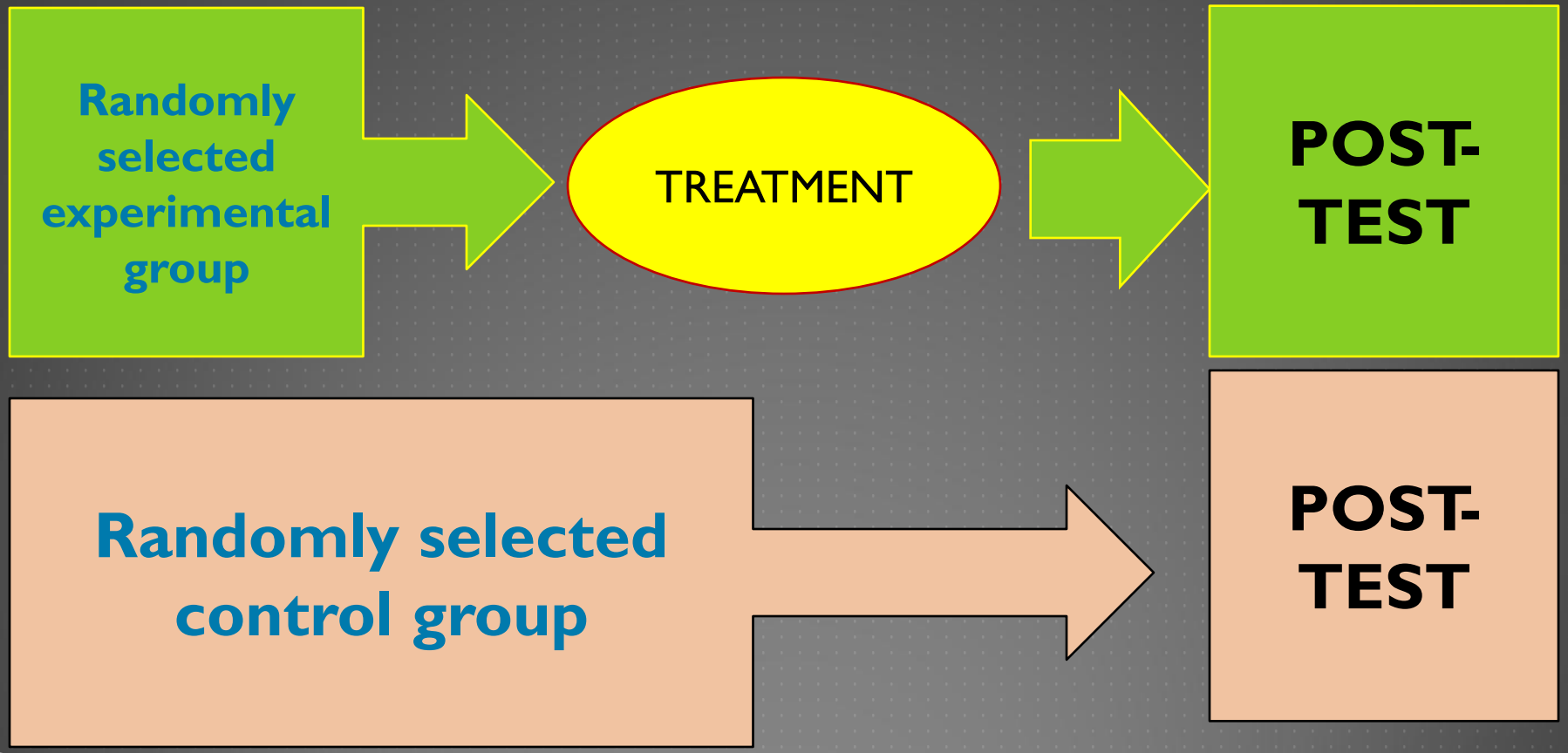
Pretest – O_1 Posttest – O_2 Treatment – X Random Assignment – R Control Group - C

Manipulation – control of independent variable by the researcher through treatment/intervention.

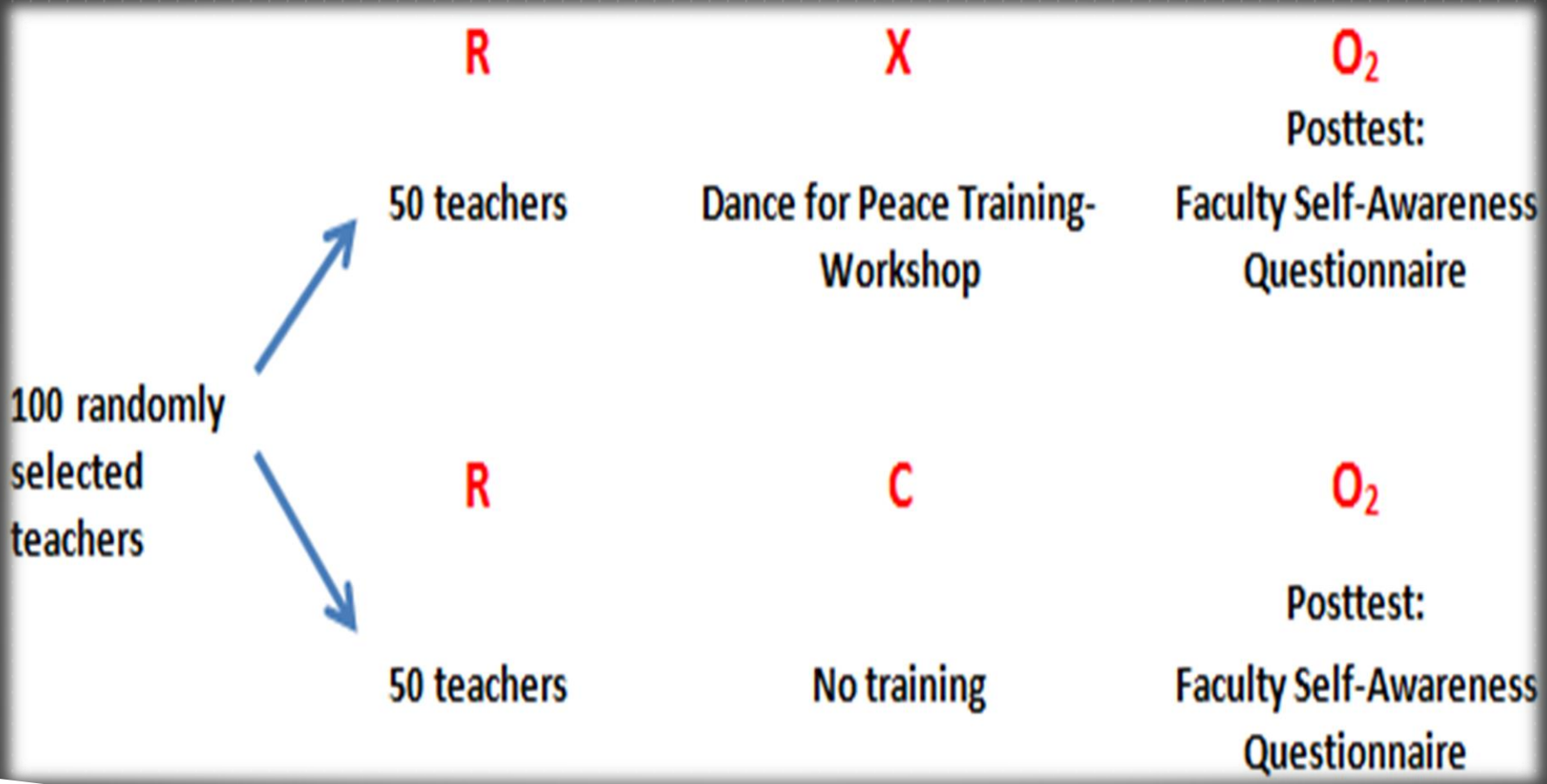
Control – the use of control group and confounding variable.

Randomization – every subjects have equal chance of being assigned to experimental and control group

POSTTEST ONLY CONTROL GROUP

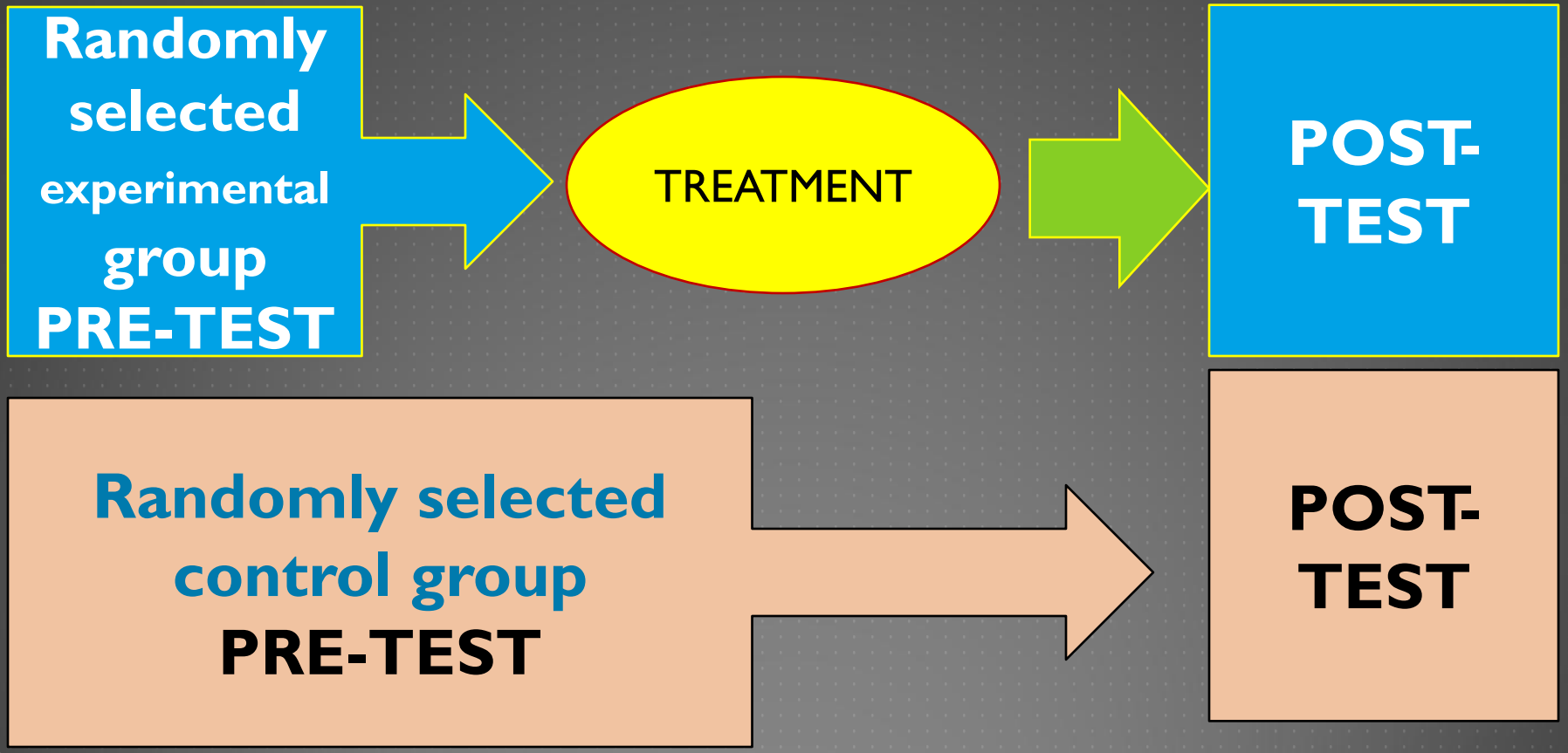


POSTTEST ONLY CONTROL GROUP

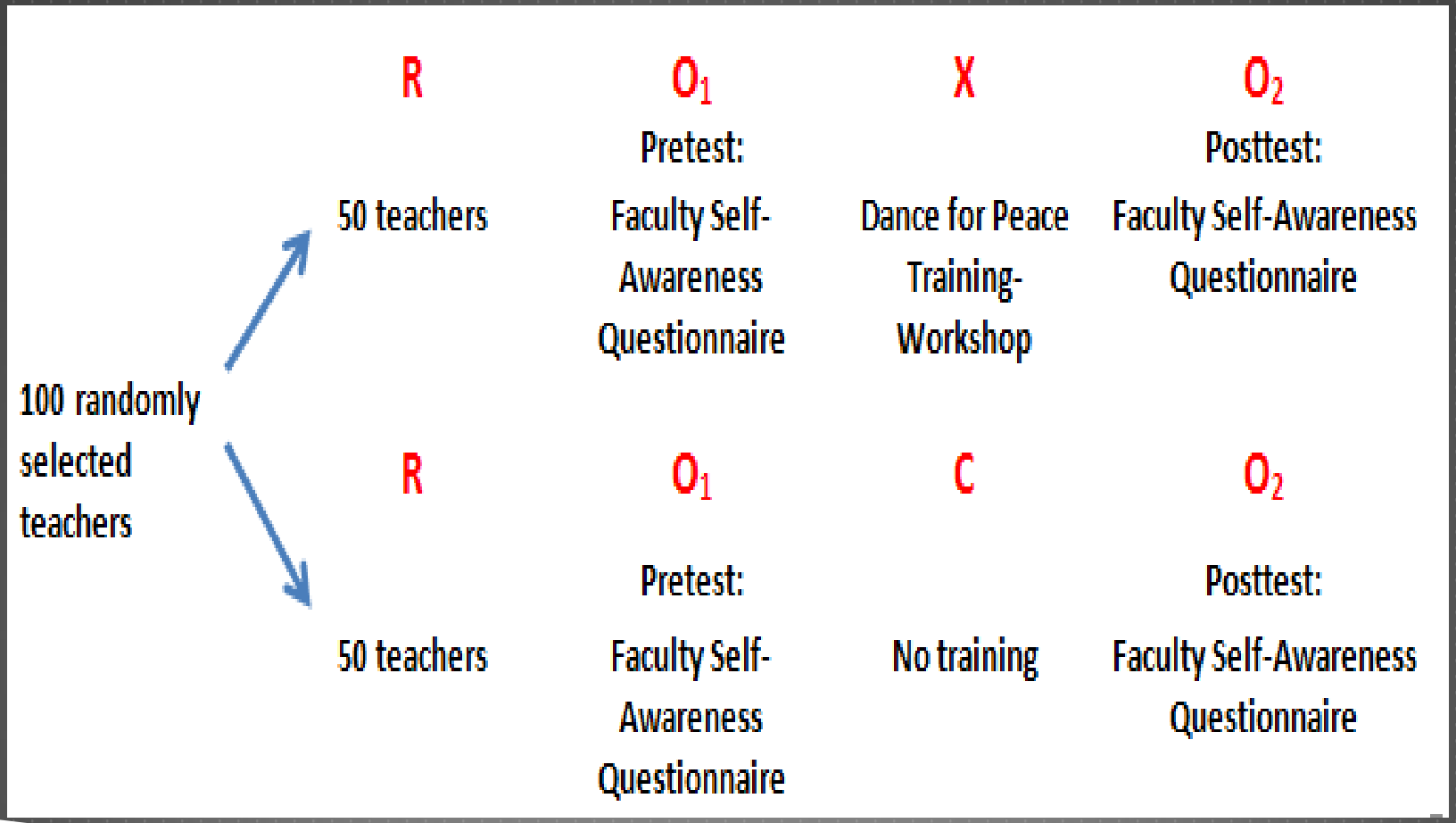


Pretest – O_1 Posttest – O_2 Treatment – X Random Assignment – R Control Group - C

PRETEST POSTTEST CONTROL GROUP DESIGN

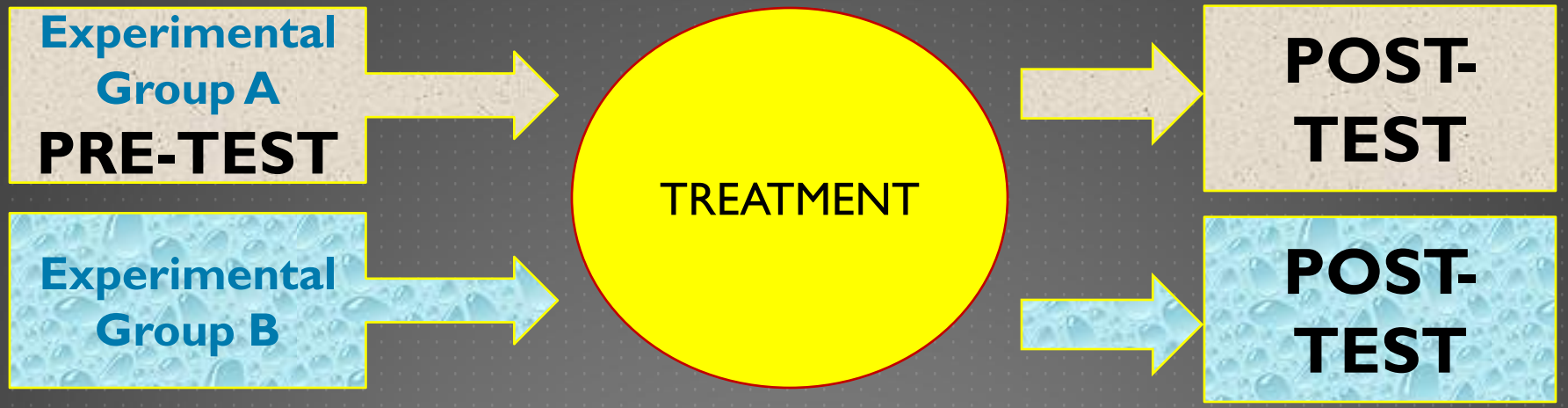


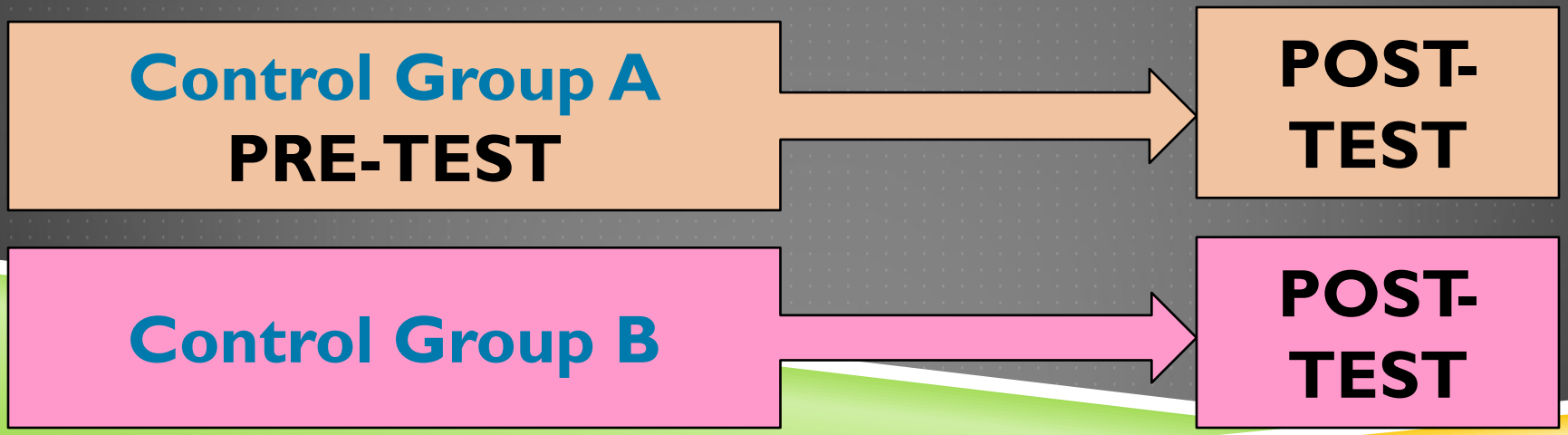
PRETEST POSTTEST CONTROL GROUP DESIGN



Pretest – O_1 Posttest – O_2 Treatment – X Random Assignment – R Control Group - C

SOLOMON FOUR GROUP DESIGN





3. QUASI-EXPERIMENTAL DESIGN

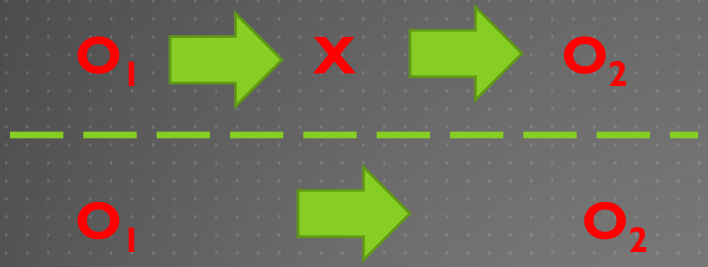
- ***Non-equivalent Control Group***
- ***Time Series***

Not a true experiment since **it does not have randomly assigned groups the comparison/control group** is predetermined to be comparable to the treatment group in critical ways.

Matching, comparing the same participants over time and pre-existing groups are used.

NON-EQUIVALENT CONTROL GROUP DESIGN

Subjects are tested in existing group or intact group rather than being randomly selected…



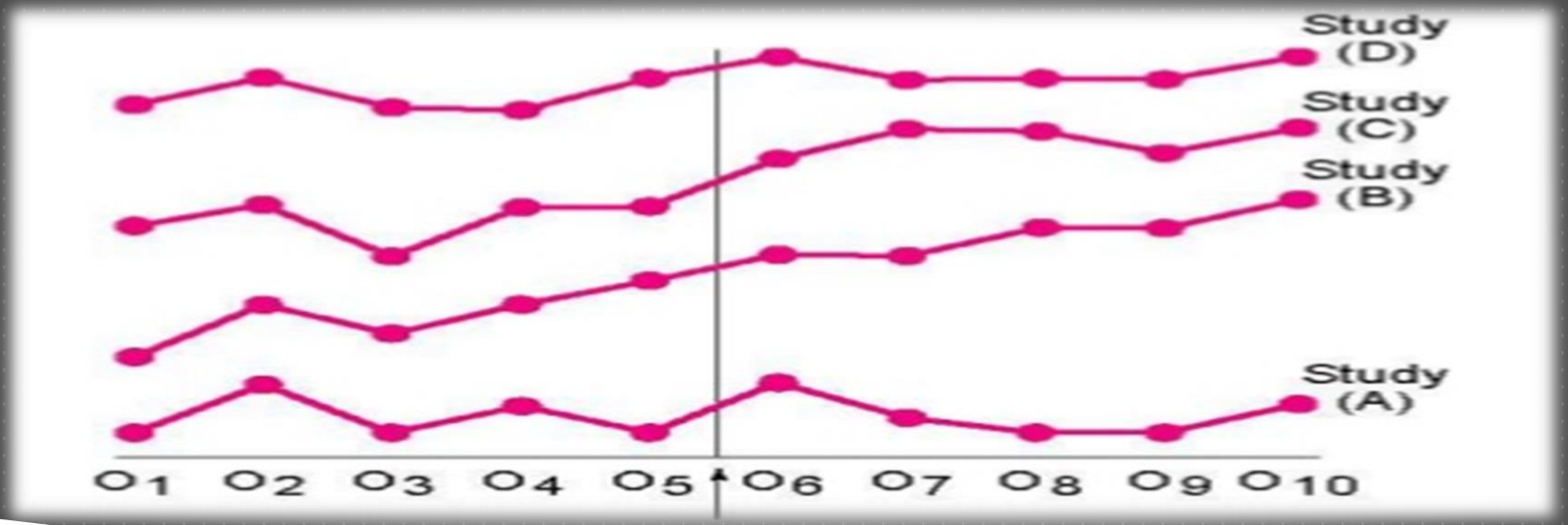
This design should only be used when random assignment is impossible!!

Pretest – O_1 Posttest – O_2 Treatment – X Random Assignment – R Control Group - C

TIME SERIES

A single group is pretested repeatedly until pretest scores are stable , exposed to treatment and, then, repeatedly post tested

$O_1 > O_1 > O_1 > O_1 > O_1 > X > O_2 > O_2 > O_2 > O_2 > O_2$



Pretest – O_1 Posttest – O_2 Treatment – X Random Assignment – R Control Group - C

Any questions??