Written Corrective Feedback: Does it enable second language learners write grammatically?

Reza Norouzian
rnorouzian@tamu.edu

Part II: Methodological
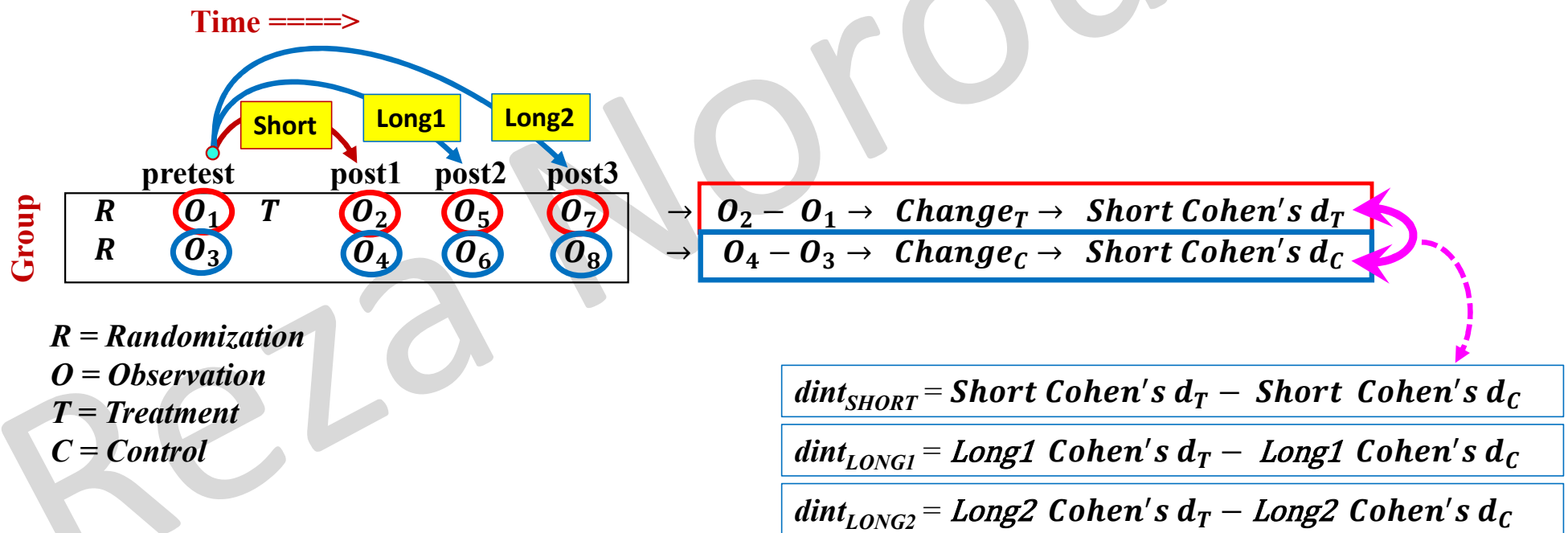
Meta-Analysis: A tool for a complex problem

- Meta-analysis is similar to an ordinary data analysis. However, meta-analysis works with a set summary data from primary studies known as *effect sizes*.

- The general assumption is that each study provides one effect size, but this is almost never the case.

- Another assumption is that interest is in measuring one type of effect from one study. But sometimes interest is in measuring more than one type of effect (e.g., short- and long-term effects).

Meta-Analysis: A tool for a complex problem (cont'd)

- The existing effect sizes (e.g., Cohen's d) are often assumed to be well suited to the designs of the primary studies, and the research questions in mind. But this (as we shall see) may not always be the case.

- It is also assumed that studies ideally use one measure/outcome in them. But studies can use several ways to measure the same attribute (e.g., writing performance) esp. in language sciences.

- It is often assumed that interest is in exploring one moderating feature at a time (e.g., *feedback type*). But oftentimes, interest is in a mix of moderating features (e.g., *feedback type & prof. level*) to assess a theoretical argument.

WCF Studies need *dint* a new effect size

- ***d* interaction (*dint*):** Measures *change* within each *treatment* group across any two times (*short- or long-term*) and compares it to that of the *control* group.

Time ====>

| Short | Long1 | Long2 |

	pretest		post1	post2	post3
R	O_1	T	O_2	O_5	O_7
R	O_3		O_4	O_6	O_8

$\rightarrow$ $O_2 - O_1 \rightarrow Change_T \rightarrow Short\ Cohen's\ d_T$

$\rightarrow$ $O_4 - O_3 \rightarrow Change_C \rightarrow Short\ Cohen's\ d_C$

Group

R = Randomization
O = Observation
T = Treatment
C = Control

$dint_{SHORT} = Short\ Cohen's\ d_T - Short\ Cohen's\ d_C$

$dint_{LONG1} = Long1\ Cohen's\ d_T - Long1\ Cohen's\ d_C$

$dint_{LONG2} = Long2\ Cohen's\ d_T - Long2\ Cohen's\ d_C$

dint: Statistical Properties

- *dint* is a measure of change in standardized mean change units.

- For example, a *dint* of +.2 for a short-term effect (measuring effect shortly after treatment) would indicate that the treatment group's standardized mean change is .2 higher than that of the control group in the short-run.

- Under normality, this also means that treatment has triggered 8% improvement in the short-run.