Interrupted Time-Series (ITS) Designs

ITS designs estimate impact by comparing multiple observations on an outcome before and after an intervention.

Assessing the Effect of Teacher Mentoring

Grantees may use a short interrupted time-series design to assess the impact of mentoring on teachers’ professional practice, for example, teacher leaders (e.g., mentors) delivering ongoing professional development to new teachers or struggling teachers. The design can be strengthened by comparing the trend in outcomes with the trend in a comparison group not receiving the intervention.

Challenge

How to provide evidence that a TIF intervention had an effect on an outcome of interest when the intervention was not assigned at random.

Solution

ITS designs offer a strong quasi-experimental alternative to randomized experiments when multiple observations on the same variable are available and other interventions were not introduced during the same time period.

Question

What is the impact of an intervention on an outcome of interest? For example, what is the effect of mentoring on new teachers’ professional practice?

Requirement

A known point at which an intervention occurred and a large set of observations on an outcome of interest across many time points (i.e., time series).

Analysis

There is evidence of an effect if the level of the outcome changes substantially after the intervention or the trend line of outcome measures changes over time.

Result

ITS designs can provide results about effects based on immediate changes and changes in slope of trend lines. The example illustrates a change in a trend, an increase in teachers’ performance, after receiving mentoring.

