Ed Tech Rapid Cycle Evaluation Coach

Guide: Random Assignment

The best test of whether your technology works is to randomly select some of your potential users to pilot the technology (treatment group) while others continue their typical classroom practice (comparison group) and compare outcomes between the two groups. Using chance or random assignment to create the groups increases the likelihood that the new technology causes the differences in outcomes.

HOW ARE YOU ROLLING OUT THE TECHNOLOGY?

Before you can randomly assign users and nonusers, the Coach will need some basic information about how you are implementing the technology.

1. **Who is using the technology?** If you didn't answer this question in The Basics, you will have to provide an answer here. This answer should reflect the type of user who is directly engaging with the technology.
2. **Do you want to randomly assign individuals or groups of individuals (such as classes or schools)?** You do not have to randomly select students at the individual level. It might be more feasible to select by classroom or by school. However, your ability to learn whether the technology is effective will be stronger if you can choose at the individual level. Randomly assigning individuals reduces the likelihood that factors tied to a specific teacher or school cause the outcomes you observe, which might be the case if you assign users at a higher level.

   If you assign by groups, how will you group individuals? Determine whether you are assigning based on class, school, or another factor.
3. **Are there limits to the number of individuals who can access the technology?** Do you have any resource constraints (such as computer or software availability, limited licenses, or time constraints) that would affect the size of your treatment group? If you can offer the technology to only a few individuals, your evaluation will be stronger if your treatment and comparison group sizes are similar (though they need not be equal).

Note: If there are no limits to the number of users you can include, you should try to include as many as possible. The more users you can compare with nonusers, the more confident you can be that any differences in outcomes can be attributed to the technology and not some other factor unique to one group. A difference observed across 100 individuals is much more compelling than a difference between two individuals.

UPLOADING YOUR DATA

Before you upload your data, refer to our guide, Prepare Your Data for Random Assignment, to ensure that the file you upload meets the necessary requirements for the Coach to randomize your participants. Your data file should have one row for each one of your participants (or classes or schools if you're assigning by groups) and one column for each data field (for example, test scores and background characteristics).

Identifying variables

After you upload your data, you will have to tell the Coach which variable names correspond with key pieces of information.

- **Select the variable that contains the anonymous ID that uniquely identifies each individual, class, or school**. Be sure to create a key or a file that links the original names or IDs to the new anonymous IDs. You will need this key to know who was assigned to each group and to add outcome data at the end of the pilot period.
- **Select your pre-test measure variable.** If available, the Coach will use the pre-test measure and background characteristics to check the equivalence or balance of the treatment and comparison groups. If you have a small sample, the Coach might have to randomize multiple times to create balanced groups.
- **Select the variables for the characteristics that should be balanced between the treatment and control groups.** These are characteristics that would make you skeptical of your results if they were found to be unbalanced between groups.

Note: You do not necessarily have to include every available characteristic. You should include only characteristics that you suspect influence the outcome in which you are interested. For example, if your outcome of interest is students' attendance, you might not have to include information about the students' teacher, such as years of experience, as that information is unlikely to affect students' attendance.