



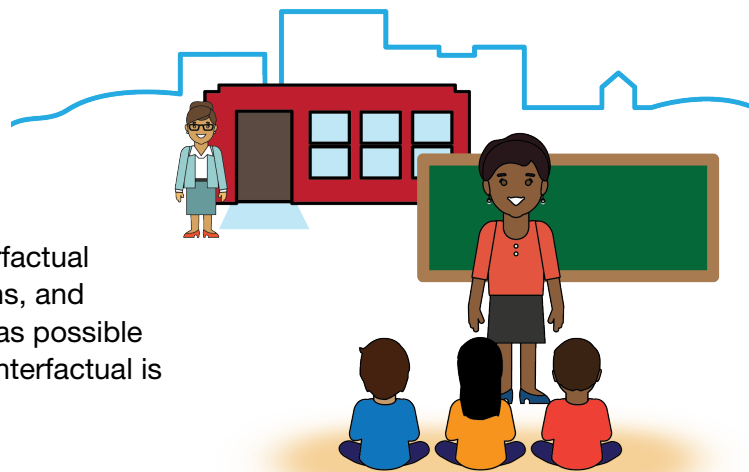
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Identifying a Valid Comparison Group

The importance of the counterfactual condition.

What is the counterfactual condition?

To determine a program's impact on participants, a study must include a comparison group that is as similar to the program group as possible. In evaluation terms, this is often called the counterfactual condition, or counterfactual. The people, conditions, and context in the counterfactual should be as similar as possible to the program group with one exception: the counterfactual is not exposed to the program.



Why do we need to consider the counterfactual condition?

The counterfactual condition is essential to determine whether your program worked. It helps you know what would have happened to the people in your program group had they never received your program. By having a counterfactual that is very similar to the program group, differences in outcomes between these two groups can be attributed to your program. This is one of the most important aspects of an evaluation that meets the Department of Education's What Works Clearinghouse (WWC) evidence standards.

How do we determine an appropriate counterfactual condition?

What is the same?

Everything should be the same or as similar as possible between the counterfactual and the program group except the program under study. This means the same types of people in the same settings. We want the characteristics of the people to be the same (students, teachers, principals, etc.) and we want the context to be the same (e.g., subject classrooms, public/private schools, urban/suburban/rural schools, etc.). The counterfactual should also be the same across different grouping, or "nesting," structures such as classrooms, schools, and districts.

What is different?

Ideally, the only difference that could influence outcomes between the counterfactual and program groups is the program itself. In most cases, we want the counterfactual group to carry on normally as if they were not part of a research study. This is called business-as-usual. Therefore, your program group should be different enough from the counterfactual that you can expect it will meaningfully impact outcomes for program participants. Typically, programs differ in terms of their dosage, content, or process.

The graphic on the next page provides examples of what needs to be similar and different for you to identify program impacts.

Check out the video: [The case for comparison groups](#)



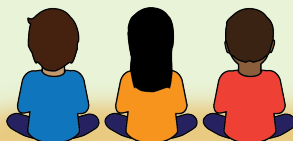
Choosing a Counterfactual

What needs to be similar about your program?

Characteristics

Student

- Race/ethnicity
- Gender
- Economically disadvantaged status
- Special education status
- English learner status
- Gifted status



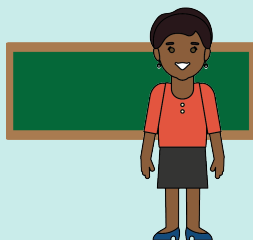
Context

Student

- Prior achievement (i.e., test scores)
- Prior educational experiences
- Prior educational programs
- Non-academic skills (e.g. motivation, attitudes, engagement)

Teacher and Classroom

- Race/ ethnicity
- Gender
- Certification(s)
- Subject area expertise/ certification
- Number of years teaching
- Advanced degree

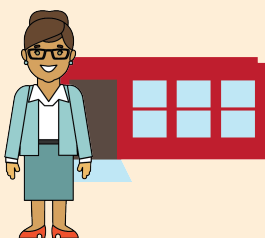


Classroom

- Prior achievement
- General education classroom
- Special education classroom
- Pull-out classroom (e.g. for English learners, gifted students, special education)
- Student characteristics

Principal Characteristics and Backgrounds

- Race/ ethnicity
- Gender
- Number of years teaching prior to leadership position
- Number of years in leadership position
- Advanced degrees



School

- Prior achievement
- Public/ private school
- Charter school
- Locale (urban, suburban, rural)
- Student demographic characteristics
- High-need or "Title I" designation

Superintendent Characteristics and Backgrounds

- Race/ ethnicity
- Gender
- Number of years teaching prior to leadership position
- Number of years in leadership position
- Advanced degrees



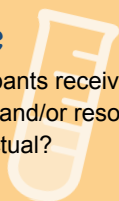
District

- Prior achievement
- Locale (urban, suburban, rural)
- Size, or total student population
- Per-pupil expenditures
- Student demographic characteristics
- Graduation rates

What needs to be different about your program?

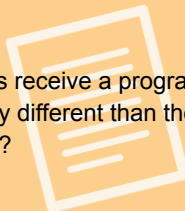
Dosage

Do participants receive more training, guidance, and/or resources than the counterfactual?



Content

Do participants receive a program that is distinctly different than the counterfactual?



Process

Do participants interact with one another differently, or are they given more or less freedom to meet a particular objective than the counterfactual?

