

## THE INS & OUTS OF PRE AND POST-TESTING

Because of the time constraints of Project Ignition, many schools will probably choose the pretest/post-test as their primary evaluation method. And if that's the case, here are a few things you'll need to consider when using this method.

**Conditions:** Make sure the pretest conditions are as similar to the mode used in post-test (if on paper the first time, on paper the second, online the first time, online the second). Otherwise, any changes you detect may be due to differences in how the survey was administered rather than changes in participants' attitudes or learning.

Even minor changes to the wording of a question (or to the response options) will limit your ability to make comparisons between the pretest and the post-test. Asking a question such as, "How often do you wear your seatbelt?" with response choices of "always," "sometimes," "seldom," and "never," is not the same as asking "Do you always wear your seatbelt?" with the response choices "yes" and "no." Keep it consistent.

**Selecting the survey sample:** Assuming the population of people who have been exposed to your campaign is relatively large (more than 100-200 people), it won't be necessary to survey every person. Selecting a random sample will help you decrease the costs and time associated with the survey while still providing results that are nearly identical to those that you would have obtained had you surveyed everyone. The use of sampling techniques allows polling organizations such as Gallup to make projections about the outcome of an election based on interviews with a small subset of the population. For more information about sampling, visit: [http://www.ropercenter.uconn.edu/education/polling\\_fundamentals.html](http://www.ropercenter.uconn.edu/education/polling_fundamentals.html)

The participants receiving the pretest survey do not need to be the same people who receive the post-test. In fact, it may be desirable to administer the pretest and post-test surveys to different groups of people. Pretest respondents may be sensitized to the topic of your campaign and therefore would not make good candidates for the post-test measurement.

If you will be using pre-existing groups of participants (for example, students in different classes) you should make sure the pretest and post-test participants don't differ in any important ways that might impact the evaluation results. In other words, to evaluate a campaign on teen auto safety, you should not give the pretest only to a group of freshmen who have not yet completed Driver's Ed and administer the post-test to only a group of juniors and seniors since the post-test group would be more likely to already possess some knowledge about driver safety. You should make every effort to make sure the pretest and post-test groups are as similar as possible.

**Questionnaire development:** The questionnaire should be accompanied by a cover letter or, at minimum, a verbal explanation describing why the survey is being conducted and how the results will be used. Here are some more tips for constructing your questionnaire.

- Keep survey as short and simple as possible. Think about how you'll use the information from each question and only include those questions that will be really helpful. Include as few skips as possible and avoid the use of jargon or abbreviations. Shorter surveys = better response rates.
- Use response scales rather than yes/no questions. Response scales such as 1 to 5 or 1 to 10 provide a lot more options for analysis. Sometimes the response is not always as easy as yes or no.
- Make sure the question matches the response scale. If you ask "Do you like the Lakers?," you should provide your respondents with the option of choosing yes or no, not excellent, good, fair, or poor.
- Avoid leading questions. Use neutral language in your questions for the truest answer as possible. What's a leading question? "Wouldn't you agree that the Cardinals are a good baseball team?" is a perfect example.
- Limit the use of open-ended questions. In most cases, only closed-ended questions (i.e., those with several pre-established response options) will provide quantifiable results that can be generalized to the entire population. However, a small number of open-ended questions that allow the respondents to write in an answer in their own words can be included to provide more detailed feedback.
- Keep open-ended questions specific. General open-ended questions such as "Any other comments" will produce general comments. More specific open-ended questions such as "Suggestions for improvement" will produce more useful comments.
- Use "N/A" and "don't know" responses appropriately. If there is a chance the respondent will not be able to answer the question, offer N/A (not applicable) or "don't know" as a response option. If you do not want to force an opinion or a guess when the respondent could truly be undecided or unaware, offer an appropriate response option.

**Sample size:** Ideally, you should plan to collect 100 completed pretests and 100 post-tests (if this is not possible, you may have to use a smaller number, but no less than 50 of each). If your school receives a grant, you may be asked to collect a larger number of pretest and post-test responses. If it is not possible to get the desired number of completed questionnaires, you may need to use another evaluation method in addition to the pretest/post-test (such as observations, interviews, or focus groups).

**Trying out your questionnaire:** Before distributing your questionnaire, you should first ask a small number of people (maybe 4-5) who were not involved in designing the form to fill it out. Ask them to point out anything they find confusing or any typos they happen to notice. Testing out your form will help you avoid any potential problems with the questionnaire before it's administered to a larger group.

**Survey distribution and collection:** It generally works best to pass out the questionnaires, give the participants time to complete them and collect them immediately. Many times when participants are given a questionnaire and asked to return it later, the forms will get lost or forgotten and your completion rate will be much lower than desired.

**Analyzing the results:** Once you have gathered the data from the pretest and post-test, you'll want to compare the responses to each survey item. One suggested way to analyze this data is to compare the percent "strongly agreeing" for a given item. In general, a difference of twelve percentage points between the pretest and post-test question responses can be considered to be statistically significant using pretest and post-test samples of 100. The smaller your sample sizes, the bigger the difference will have to be between the pre and post-test responses to reach statistical significance. (With 50 of each, the difference between the tests would have to be about 20%.)

**Coding the responses:** When you get the completed questionnaires, you'll need to assign an ID number to each form. Simply number them in order in the top right-hand corner of the form. For each questionnaire item, you'll need to assign a point value to each response option. The assigned values are shown for each response option in the example below.

- 5=strongly agree
- 4=somewhat agree
- 3=neither agree nor disagree
- 2=somewhat disagree
- 1=strongly disagree

In this example, a respondents choosing the "somewhat agree" response would get a score of '4' for this question.

**Data entry:** The data from all the completed questionnaires can then be entered into an Excel spreadsheet. The example below shows what your spreadsheet might look like.

	A	B	C	D	E	F	G	H	I	J	K	L
1	ID	Pre/Post (1=Pre, 2=Post)	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10
2	1	1	2	0	0	0	0	0	2	2	1	3
3	2	1	1	4	4	4	3	4	5	5	5	4
4	3	1	1	1	5	2	5	2	1	5	5	5
5	4	1	1	5	5	5	5	5	5	5	5	5
6	5	1	1	5	5	5	5	5	1	5	5	5
7	6	1	2	0	0	0	0	0	2	2	3	1
8	7	1	1	1	1	2	5	5	1	5	5	5
9	8	2	1	5	3	2	3	5	1	5	3	5
10	9	2	1	4	2	1	2	4	1	4	3	3
11	10	2	2	0	0	0	0	0	2	1	0	1
12	11	2	1	5	5	5	5	5	3	5	5	5
13	12	2	1	4	4	4	3	5	1	4	4	4
14	13	2	1	4	3	4	4	3	5	4	4	4
15	14	2	1	3	4	3	4	4	1	4	4	4

Each row across the page represents one completed questionnaire and each column represents a different survey question. Once the data is in this format, you can calculate averages for each question, use formulas to compared pre and post-test results, or use pivot tables to get a distribution of responses for each question.