

# Conducting a Quality Survey Research Project



ASSOCIATION FOR INSTITUTIONAL RESEARCH  
Data and Decisions for Higher Education

Welcome to AIR's webinar series on conducting a quality survey research project – thank you for attending!

## Presented by:



**Darlena Jones, Ph.D.**

*Director of Assessment and Research  
Association for Institutional Research*



My name is Darlena Jones and I am the Director of Assessment and Research for the association. I direct the assessment and research initiatives for AIR like the Forum, membership, and educational opportunities. I am also involved in the development of those educational opportunities. In addition, I lead the National Survey of IR Offices project that quantifies the operations of the IR Office.

Before joining AIR, I led the national benchmarking division for an assessment company. In that role, I developed and managed over 100 national benchmarking assessment projects.

How does that relate to this webinar series? I have spent the past 20 years conducting survey research projects. I have learned a lot over those 20 years and have made my share of mistakes. Hopefully you can learn from my mistakes.

# Housekeeping

We welcome questions! Please use the “Questions” section of the GoToWebinar control panel.

Slides available in the “Handouts” section

Webinar is being recorded and will be available

Please respond to the evaluation when you receive it via email. We appreciate your feedback!



Before we begin, we have a few housekeeping items to discuss. First, your microphone will stay muted throughout the webinar but if you would like to ask me a question, please type your question into the “Questions” section of the GoToWebinar control panel and click “Send”. I will receive those questions and answer as we time.

Second, if you would like a copy of the slides, please click on the “Handouts” section of the GoToWebinar control panel and download the file.

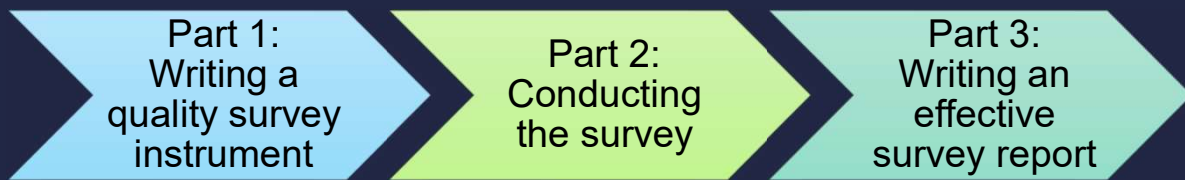
Next, this webinar is being recorded and will be made available.

And, finally, at the end of this webinar, you will receive an email to a short survey asking for feedback about the webinar.

# Two-Part Webinar Series

Webinar 1 – November 5, 2019

Webinar 2 – November 7, 2019



AR

This is a two-part webinar series. Today's webinar will focus on Part 1: Writing a quality survey instrument.

Thursday's webinar will focus on conducting that survey and writing an effective report.

## Scenario



Here's how a lot of survey research projects start. Your institution's president (or other senior leader) wants to be better understand an issue like how to improve first-year student success.

They come to the Director of IRE (or similar office) and they talk about the issue. The director translates the requester's needs into a research questions like "What are the factors that predict fall term GPA and fall-to-spring retention?"

The director looks at you to design a survey to collect first-year student's perceptions of their transition to college.

And you say "Where do I start?"

Sound familiar?

# Understanding First-Year Student Success

## *We can't impact these*

Characteristics
<ul style="list-style-type: none"><li>• Gender, race/ethnicity</li><li>• Socio-economic status</li><li>• First-gen status</li><li>• Veteran status</li></ul>

Cognitive Skills
<ul style="list-style-type: none"><li>• SAT/ACT scores</li><li>• HS GPA</li><li>• Academic preparation</li></ul>

## *We might impact these?*

Academic Behaviors
<ul style="list-style-type: none"><li>• Class attendance</li><li>• Sufficient study time</li><li>• Time management</li></ul>

Non-Cognitive Skills
<ul style="list-style-type: none"><li>• Social integration</li><li>• Homesickness (distress)</li><li>• Academic self-efficacy</li><li>• Academic integration</li></ul>



There are several factors that contribute to first-year student success. Some factors describe the characteristics of the student like their gender, race/ethnicity, socio-economic status, first-generation student status, or their relationship with the military. Other factors measure their cognitive abilities like entrance test scores, their performance in high school, and how academically prepared they are for college-level work. These two areas can't be impacted by their experiences with your institution. Basically, students come to your institution with these characteristics and cognitive skills.

However, there are two areas that your institution can impact. The first is the students' academic behaviors like attending class, spending sufficient time studying, and their time management skills. And your institution can also help students with their social integration, coping with homesickness, their academic self-efficacy, and integrating into their college academic life.

All four blocks contribute to a first-year student's academic success and their motivation to persist to the spring term. How does this relate to survey research? We can construct a survey that helps us understand all of these areas.

We'll pick one area, "Social Integration" as our example. We will design a sample set of questions that measures this area.

# Survey Design Primer



Before we discuss the process to writing a survey instrument, let's take a few minutes to talk about how to write quality survey questions. We hosted a webinar a few weeks ago looking at the do's and don'ts of survey design and reporting. I've picked out those that are most important. If you would like to watch that webinar series, please visit [www.airweb.org/education](http://www.airweb.org/education) to register.

# Basic Survey Question Types

## Use often...

- Likert-scaled
- Categorical

## Use sparingly...

- Open/text-based
- Multiple-response
- Numeric questions
- Ranking questions



There are several types of survey questions that most online survey systems support.

I would encourage you to focus your use on Likert-scaled and categorical questions. A Likert-scaled question is one in which the response options follow a scale or continuum with anchor points at each end of the scale like very dissatisfied to very satisfied.

Categorical questions have answer options that are not on a continuum. These questions are often used to collect demographic information like gender, race, class standing, and current residence.

There are several question types that I would encourage you to use sparingly if ever. Open or text-based questions are those where the respondent types in a response which can make coding these data challenging. Multiple-response questions are the “choose all that apply” questions that look like a categorical but aren’t. Numeric questions ask the respondent to type in a number. And, ranking questions, ask the respondent to put in order a series of answer options from highest to lowest.



# Use odd-numbered response options

- › Allow for a “neutral” response for fence-sitters
- › 5 and 7 answer options are most common

Please indicate your level of agreement. I am comfortable seeking help for the following issues:

	Strongly disagree	Moderately disagree	Neutral	Moderately agree	Strongly agree
Academic issues (e.g., performing poorly in classes, need tutoring)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Financial issues (e.g., difficulty paying for tuition, housing, food)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Health issues (e.g., mental or physical health)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Off-campus housing issues (e.g., finding housing, help with landlord issues)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>



I strongly recommend that you use an odd-numbered scale for your Likert questions. This allows a “neutral” answer option for those who don’t have an opinion about the question. In this set of questions, we selected a 5-point scale with a neutral option. In this context, a neutral option might be selected if a student is neither comfortable or uncomfortable seeking help.

## Include a “not applicable” or “prefer not to answer” response options

Should the Student Union install the following stores/centers?	Strongly disagree	Moderately disagree	Neutral	Moderately agree	Strongly agree	Not applicable
Coffee Shop	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Daycare Center	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Bookstore	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

How often do you drink three or more alcoholic beverages in one hour?
<input type="radio"/> Never /rarely
<input type="radio"/> A few times a year
<input type="radio"/> A few times a month
<input type="radio"/> A few times a week
<input type="radio"/> Prefer not to answer

AR

In some cases, respondents can't answer a question. In those cases, consider adding an answer option of “not applicable” which is different than the middle neutral option. The neutral option means that a person has an opinion, but it's neither positive nor negative. Options like “not applicable” means that a person can't express an opinion because the respondent either lacks the knowledge, is undecided, has no experience with the topic, or the topic doesn't apply to them.

Here, we have drafted questions for a student union survey asking students if they would like these stores or centers installed in the Union. A respondent might select “not applicable” to the second question regarding a Daycare Center if the respondent doesn't have dependent children.

Also consider adding a “prefer not to answer” option. In dealing with sensitive questions, consider adding a response option that reads, “prefer not to answer”. That gives everyone an answer option. I have found that very few people choose that response but it indicates that you're aware this is a sensitive question.

# Use a negative-to-positive scale

## *Negative-to-positive scale*

How satisfied are you with the following services?

	Very dissatisfied	Moderately dissatisfied	Neutral	Moderately satisfied	Very satisfied
Academic Advising	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Tutoring Services	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>



## *Positive-to-negative scale*

How satisfied are you with the following services?

	Very satisfied	Moderately satisfied	Neutral	Moderately dissatisfied	Very dissatisfied
Academic Advising	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Tutoring Services	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>



Left-side bias is stronger with positive-to-negative scale

AR

Always orient your Likert-scaled questions from the negative response to the positive response.

You could organize your scale from positive-to-negative but be aware of the “left-side bias” phenomena in survey research. Researchers have shown that respondents are slightly more likely to respond to options on the left-side of the scale especially when the scale is organized from positive to negative.

The solution? Organize your scales from negative to positive for a couple of reasons: First the left-side bias is less of an issue when the scale is negative-to-positive and second if your data is going to be inherently biased, it’s more defensible to be biased to the negative. In other words, it looks like you’re trying to game the system if you organize a positive-to-negative scale.

But, most importantly, whichever direction you choose (negative-to-positive or positive-to-negative), keep that same direction for the entirety of the survey to lessen confusion among your respondents.

# Don't overlap answer options!

The diagram illustrates a common mistake in survey design: overlapping answer options. It shows two versions of the question "How old are you?".

**Left Version (Incorrect):** The options are "Less than 18 years old", "18 to 25 years old", "25 to 30 years old", and "Over 30 years old". The "18 to 25 years old" and "25 to 30 years old" options are highlighted with an orange border, indicating they overlap at the age of 25.

**Right Version (Correct):** The options are "Less than 18 years old", "18 to 25 years old", "26 to 30 years old", and "Over 30 years old". The "18 to 25 years old" and "26 to 30 years old" options are highlighted with a green border, indicating they do not overlap.

A blue arrow points from the left version to the right version, showing the correction from overlapping to non-overlapping ranges.



**Tip:** Carefully consider each answer option. Ask someone to proof the response options.

AR

Overlapping answer options is a very simple mistake to make. In this example, we ask students to indicate their age.

But, how should students respond if they're 25 years old? There are two answer options that work.

On the right side, we show the correct answer options. When developing complicated surveys, it's easy to make mistakes like this. Just remember to carefully consider each answer option. And have someone proof your response options.

# Avoid Multiple-Response Questions

If you don't return to this institution next term, which of the following reasons might contribute? Please choose all that apply.

- ☒ Financial issues
- ☒ Transportation isn't reliable
- ☒ Family demands
- ☐ Health issues (mine or a family member)
- ☐ Job is too demanding
- ☒ Institution doesn't have degree program I want
- ☒ Significant other attends another institution
- ☒ Other

I want to attend a school closer to home

If you don't return to this institution next term, what would be the **predominant** reason?

- ☒ Financial issues
- ☐ Transportation isn't reliable
- ☐ Family demands
- ☐ Health issues (mine or a family member)
- ☐ Job is too demanding
- ☐ Institution doesn't have degree program I want
- ☐ Significant other attends another institution
- ☐ Other

If you don't return to this institution next term, to what degree would the following reasons contribute?

	Not at all	Slightly	Moderately	High	Very high
Financial issues	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Transportation isn't reliable	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Family demands	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Health issues (mine or a family member)	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Job is too demanding	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Institution doesn't have degree program I want	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
Significant other attends another institution	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>

What other reasons (besides those listed above) might contribute to you not returning next term?

I want to attend a school closer to home

Multiple response questions look like categorical questions except that the respondent can choose more than one answer option. The respondent is essentially answering each item with a “yes” or “no”. If they click an answer option, they’re effectively saying “yes” to that item, if they don’t click an answer option, they’re effectively saying “no”. Essentially, each answer option is a dichotomous question.

At face value, it might seem better to allow respondents to choose all applicable answer options but you should limit the use of this question type for a couple of reasons. First is that multiple-response questions don’t measure intensity of responses. In other words, a person could select all the reasons for leaving the institution but it’s likely there is one reason that’s most critical. Second, there’s the issue of non-response bias. Some respondents skip questions when answering a survey. In the case of a multiple-response question, a person can choose multiple options or no options at all. If they choose no options, are they really saying “no” to each answer option or did they skip that question? There’s no way to know for certain. This leads to under reporting the data since you must assume that they said “no” to every option.

We can fix the intensity and non-response bias by changing the multiple-response question into a categorical question and ask the respondent to choose the predominant reason for not returning. But, in this case, you lose the level of intensity of the other answer options that could contribute to student attrition.

The ideal situation is to write these items as Likert-scaled questions and include a text box for other reasons. Now we can fully understand the impact of all potential issues on student attrition. The downside is that this block of questions will take longer for the student to answer. But, if intensity doesn’t matter, then use the multiple response or categorical question instead.

# Avoid Ranking Questions



Please rank the club sports you want to participate in from your first to last choice.

Soccer	3
Baseball/softball	1
Basketball	4
Rugby	5
Volleyball	2

- » Can be confusing if there are too many items
- » Doesn't measure intensity



Consider writing as a Likert-scaled question

To what degree would you be interested in participating in the following club sports next term?					
	Not at all	Slight	Moderate	High	Very high
Soccer	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Baseball/softball	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Basketball	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
Rugby	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Volleyball	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>

AR

Ranking questions ask respondents to put a list of things in order. While ranking questions might seem attractive, they can be tricky to write and are often confusing for respondents especially if the list of options is long or the instructions are unclear.

Ranking questions only reveal the order in which respondents would put things, but it does not measure the intensity of their preference. For example, how much stronger is their preference for baseball/softball over volleyball?

Instead of a ranking question, consider writing those items as a Likert-scaled question which makes it easy to measure the intensity of their response. Here, we see that this person rated baseball/softball and volleyball with the same intensity. And, we see that soccer is a close second. We don't get that level of intensity in a ranking question.

## Be Careful: Numeric Questions



	Numeric Answer
How old are you?	<input type="text" value="25"/>
How many dependent children do you have in your home?	<input type="text" value="2"/>
How many miles do you live from campus?	<input type="text" value="30"/>

- › Respondent must follow the rules
- › Can't use numeric data as a grouping variable



**Consider writing as categorical questions**

### How old are you?

- ☐ Less than 18 years old
- ☐ 18 to 21 years old
- ☒ 22 to 25 years old
- ☐ 26 to 30 years old
- ☐ 31 to 40 years old
- ☐ 41 years old or older

AR

Numeric questions ask the participant to respond with a number like age, number of dependent children, or year they graduated from high school. Numeric question types can be challenging for the respondent if they have to follow rules that you've set up. The survey system will ask them to redo the question if they don't answer it correctly like if they answer outside the parameters you sent or they fail to provide answers that sum to 100.

Unless you need the precision of numeric data, consider reframing numeric questions as categorical questions. In this example, we rewrote age as a categorical question. While we have lost the precision of the data, we have gained a variable that can now be used in grouping analyses and we've made it easier for the respondent.

# Be Careful: Open-ended Questions



Why did you choose not to participate in a club sport this term?

I had knee surgery last summer and still recovering

- › Don't ask broad "tell us what you think" questions – be specific
- › Time-consuming for respondent
- › Might have many responses to code



Consider reframing as a categorical question

What was the primary reason you chose not to participate in a club sport this term?

- ☐ Not enough time (course demands, work demands)
- ☐ There wasn't a sport offered that I was interested in
- ☒ I have an injury that prohibited me from playing
- ☐ I prefer other ways to exercise besides group sports
- ☐ Other

AR

Open-ended text questions allow the respondent to answer the question in their words. While this type of data can help explain answers from other questions like Likert-scaled or categorical, it can be very difficult and time-consuming to analyze.

If you use this question type, consider asking the respondent a focused question instead of a broad "tell us what you think" question. Let's say that, in our survey for Recreation Services, we wanted to know why students didn't participate this term so we drafted an open-ended text question to measure that. Notice that we asked the respondent a direct question and not just a blank comment box.

Keep in mind that answering this question is time-consuming for the respondent.

And, if the number of people you're surveying is large, you could end up having to read and categorize hundreds, if not thousands, of responses.

To mitigate that coding time and the burden on the respondent, consider reframing this question as a categorical. Here, we list the most obvious reasons why someone wouldn't participate in a club sport and gave them a text box to explain additional reasons.



# Don't ask double-barreled questions

Please indicate your level of agreement.

	Strongly disagree	Moderately disagree	Neutral	Moderately agree	Strongly agree
My parking lot is convenient and safe. ❌	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My parking lot is the least expensive and closest to campus. ❌	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Please indicate your level of agreement.

	Strongly disagree	Moderately disagree	Neutral	Moderately agree	Strongly agree
My parking lot is convenient. ✔️	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My parking lot is safe. ✔️	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My parking lot is the least expensive. ✔️	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My parking lot is closest to campus. ✔️	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>



**Tip:** Search for “and,” “but,” and “or.”

AR

Don't ask two issues in a single survey question. Compound or double-barreled questions causes confusion among respondents and results in poor quality data.

For example: Let's say parking services asked you to develop a survey about why students choose their parking lot and you drafted this set. Can a parking lot be convenient but not safe? Can a parking lot be inexpensive and further away from campus? The answer is obviously yes. A respondent can't answer these questions because there are two questions combined into one.

The solution is to re-word compound questions to ensure that a single concept appears in each question.

The best way to search for compound questions is to do a word search for “and,” “but,” and “or”. If those words appear in your survey questions, chances are that you've accidentally written a compound question!

# Don't ask loaded questions

## Poor Question

*Where do you like to party?*

## Better Question

*How do you spend your downtime?*



**Tip:** Ask a colleague to review your survey questions. If they feel uncomfortable answering a question, it's likely your survey participants will too.

AR

Asking “loaded” questions will bias your results. Loaded questions contain a false or questionable assumption and is “loaded” with that assumption.

For example, “*Where do you like to party?*” is a loaded question because it assumes that all respondents “party”. If a respondent doesn’t “party”, they have no way to answer this question.

Let’s reword this question to be neutral: *How do you spend your downtime?* This question is no longer loaded and everyone can answer this question truthfully.

I would always encourage you to have a colleague read through your survey. If they feel uncomfortable answering your questions then your survey participants will too.

# Don't ask leading questions

## Poor Question

*How satisfied are you with your instructor's responsiveness? Keep in mind that he teaches six courses.*

## Better Question

*How satisfied are you with your instructor's responsiveness?*



In addition, don't ask a "leading" question which will also bias your data. Leading questions are worded in such a way to guide a respondent to answer in a certain way.

An example of a leading question is, "*How satisfied are you with your instructor's responsiveness? Keep in mind that he teaches six courses.*" The author of this question is clearly sending a message that the respondent should rate their instructor more favorably because he is overloaded.

Let's rewrite that question using neutral language: *How satisfied are you with your instructor's responsiveness?* Now, the respondent is asked to fairly rate her instructor regardless of the instructor's workload. The instructor can make the case that, if he rates low on being responsive, it's the workload that's partially responsible.

Remember that survey questions must be neutrally worded so that the respondent will be able to truthfully address the issue without feeling a social pressure to respond a certain way.

# Don't use acronyms, abbreviations, and jargon

## Poor Question

*Have you visited NRC?*

## Better Question

*Have you visited the Nobel Research Center?*



**Tip:** Review your survey questions and ask yourself, “would someone who is new to my institution understand every word on this survey?”

AR

Sometimes words and phrases are unique to an institution, region, or state. While most respondents might understand those local expressions, respondents who are not familiar may not know what it means or how to respond. For that reason, avoid acronyms, technical terms, or jargon that may confuse your respondents. And make sure to provide definitions or examples if you need to include tricky terms or concepts.

For example, on a student engagement survey, we could have written: *Have you visited NRC?* This question would be impossible to answer for those new to the institution.

A better way to ask that question is: *Have you visited the Nobel Research Center?* Here, we have spelled out the center's name to avoid the confusion that an acronym could create.

When you proofread your survey, ask yourself, “could I answer these questions if I were new to my institution?”

# Be sensitive to survey participants

Survey research often explores uncomfortable topics

Must work to ensure honest answers

Sensitive questions might embarrass the respondent if information is public

What is ok to you might be embarrassing to others.



Survey researchers are often asked to explore issues that are difficult to discuss. For example, we might be asked to conduct a survey on campus climate immediately following a racial incident or we might be asked to identify concerns among the gender-fluid student population at a socially-conservative institution.

In order to collect data needed to improve our institution, we must ensure that our survey questions are answered honestly so that we can provide accurate results to decision makers. But, asking sensitive questions may make your respondents uncomfortable which can result in them skipping these questions or answering untruthfully to conform to a society norm.

Sensitive questions vary from person to person but, typically, a question is considered sensitive if the respondent believes that information might be embarrassing or not socially acceptable if made public.

And, what has taken me a while to learn is, the same issue is not embarrassing to everyone. For example, I grew up in a lower income household but I would not find a question about family income uncomfortable. However, someone who grew up in foster care might find a question about family income very sensitive.

## Be specific

### Poor Questions

*How satisfied were you with your residence hall experience?*

### Better Questions

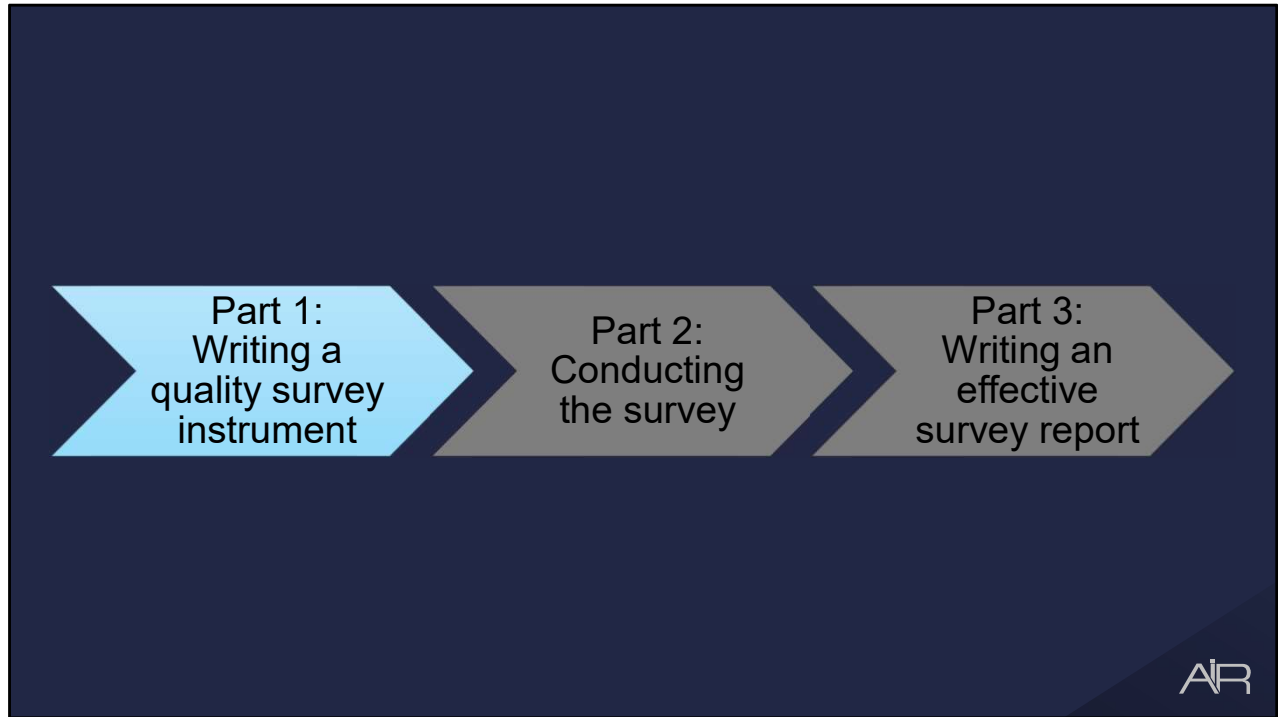
*Over the past semester, how satisfied were you with your residence hall experience?*



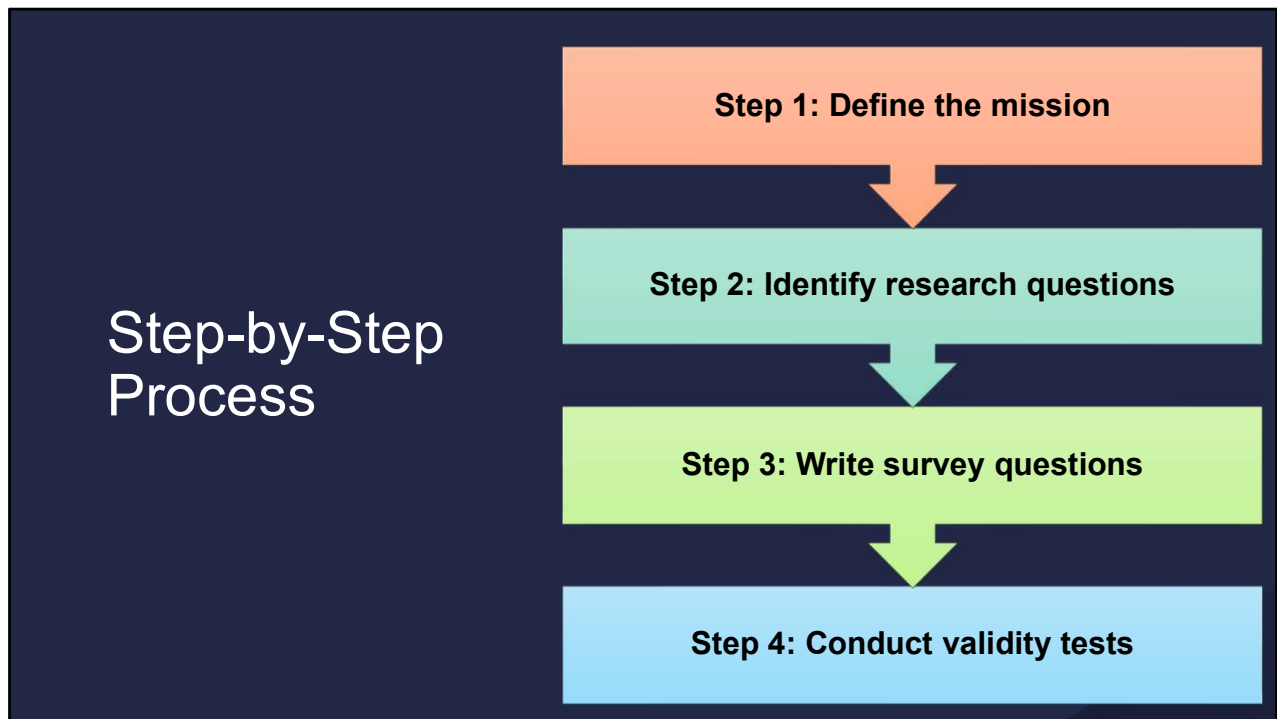
It's easy to write questions that, while on the surface look reasonable, can be misinterpreted. One common misinterpretation is time. As a survey researcher, you might have the current time frame in mind, but your survey participant may think differently.

Here's an example: How satisfied were you with your residence hall experience? This isn't a poor question if you're only surveying first-year students. But, if there are upperclassmen in the survey, then they could still be upset about an incident that happened three years ago and respond negatively. That doesn't help the residence hall staff effect change now.

Let's rewrite that question to be more time-specific: Over the past semester, how satisfied were you with your residence hall experience? Here, we've narrowed the time frame from "any time" to the "past semester". That gives us information that is more actionable.



Now that we have some rules to follow regarding writing survey questions, let's lay out a process to follow to write a survey instrument.



How many of you would just start jotting down survey questions? And, what you would end up with is a messy, unorganized, randomly thought-out survey.

Instead, let's consider this simple and easy-to-use process. First, we define the mission of our survey then, based on that mission, we draft research questions that meet that mission. From our research questions, we start drafting survey questions. Once we have a solid draft of the survey, we can conduct two translation-related validity tests.

Let's discuss each step in depth then we will apply that process to our first-year student success survey.



# Step 1: Define the Mission

**Mission of the project:** Clearly define the reasons behind the survey.

**Population:** Clearly define the population being studied



The first step to a good survey research project is to define the mission of the survey. Every question on that survey must link back to the mission. If it doesn't, then you can't include that question.

How do you define the mission? You don't. The survey requester does. During the time that the project is initiated, you should spend time interviewing the survey requester so that you are clear on what he/she wants to learn from the project. How will the results be used? What is the population being studied? Are they students? Alumni? Faculty? Engineering majors? Upperclassmen majoring in performing arts?

There may be a little back and forth between you and the survey requester before you are comfortable that you understand the mission and the population under study.

## Step 2: Identify Research Questions



Based on the mission and the population, next we need to identify the associated research questions.

You should understand the project well enough to conduct a literature search. This should help you understand the research that others have conducted in this area.

From your conversation with the survey requester and your literature search, you should be able to draft research questions that, when answered, would give the information the requester needs.

While it may be tempting to move forward with the survey construction, don't. Take a minute and discuss the set of research questions with your survey requester so that he/she can agree that these are the questions they need answered.

## Step 3: Draft Survey Questions

Research to see if survey metrics/instrument already exists.

Consider an external survey vendor?

- › Designed and tested by experts
- › Should have reliability and validity information available
- › Survey provider may conduct the survey for you / provide reporting
- › May include benchmarking
- › May offer credibility to the project
- › May allow survey to be customized



Now that you're confident that you have the research questions correct, we can start the process of drafting the survey instrument.

Before you start writing questions down, take some time to see if there are any published survey instruments that can meet your needs. Many published surveys are the result of scholarly research and may be available to you simply by obtaining permission from the author(s).

Other published surveys are available commercially and may be used for a fee. The costs may appear prohibitive, but consider what comes with that fee:

- Published surveys are usually designed and tested by experts and should have reliability and validity information available to you.
- The survey provider may conduct the survey for you, provide well-designed reports, offer customer service and guidance in how to make best use of the results, and return your raw data for further analysis.
- Participation might allow you to receive benchmarking information with other institutions that have used the survey and opportunities to collaborate with other institutions in the interpretation and use of the data.
- Published surveys might offer credibility to your project that could help when you present findings to faculty, administrators, governing boards, legislatures or even the local media.
- Some published survey providers allow the user to customize their survey within reason (e.g., add/remove survey questions, add/remove answer options).

## Step 3: Draft Survey Questions

### Characteristics

- How old are you?
- What is your cumulative GPA?
- What is your class standing?

### Attitudes or Feelings

- To what degree do you miss your hometown friends?
- To what degree are you confident that you can overcome academic challenges?

### Assessing an Experience

- How responsive was your instructor to your concerns?
- To what degree did your academic advisor provide useful information?



Assuming that you aren't able to find a published survey that you can use, we'll need to write our survey instrument. There are three major categories of questions...

The first category is understand who the participant is. This might include questions like their age, their cumulative GPA, their class standing, where they live, the amount of financial aid, and so on. As with the other survey questions, include only questions that directly link to mission or can help us better understand the issue.

The next category of questions is attitudes and feelings. Questions in this category are like "To what degree do you miss your hometown friends?" or "To what degree are you confident that you can overcome academic challenges?" This category of questions can be challenging to analyze. People tend to overestimate their abilities and rate these questions higher than reality.

The last category is asking the respondent to assess an experience. In this category, respondents are assessing the environment around them and will rate these questions lower than the attitudes/feelings category. Questions here are like "How responsive was your instructor to your concerns?" or "To what degree did your academic advisor provide useful information?" These questions are focused outside the student's behaviors.

Research Question	Associated Survey Questions
What student characteristics affect their perception of advising?	Who is your academic advisor? What is your primary academic major? How many credit hours are you currently taking? What is your cumulative GPA? During this academic year, how often have you met with your academic advisor?
What is the satisfaction level of new students with their academic advisor?	<b>My academic advisor:</b> Provides accurate information. Takes an interest in my progress toward graduation. Spends as much time with me as needed. Discusses my future enrollment plans (e.g., stay, drop-out, transfer). Discusses how to graduate on time.  <b>To what degree is your academic advisor knowledgeable about:</b> Course requirements for general education/core curriculum Degree requirements Identify majors that align with your professional goals  <b>To what degree:</b> Did your academic advisor create an accepting environment? Was your advising experience a positive academic experience? Would you recommend this academic advising experience to a close friend?

So, how do you actually start writing questions? It's pretty simple. Open a document and list your research questions in the first column. Then, based on your understanding of the topic and the literature search you conducted, start brainstorming questions that would give you the answers to that research question.

Here, I have two research questions for an academic advising survey. The mission of the survey is to better understand student perceptions of advising. There are two research questions: What student characteristics affect their perception of advising? And, what is the satisfaction level of new students with their academic advisor?

For the first research question, I listed various characteristics questions that might impact how a student perceives their advising. Could I have included other questions like current residence? Maybe but it's highly unlikely that living in a residence hall versus living off campus could be related to their advising experience. Could I have add questions asking about the type of car they drive? Or, how often they eat popcorn? Nope! There's no way those could impact their perception of advising.

Here are the questions that I created to measure the second research question. Could there be other questions added? Maybe. As long as it meets the needs of the mission AND doesn't make the survey too long, then considering adding them.

## Create a library of questions



As you build more surveys, you'll start to notice that some questions are used repeatedly. Consider building your own "library" of common questions that have been vetted by content experts or published research. Examples might be self-efficacy/grit metrics, program evaluation metrics, or satisfaction metrics. It will make future survey development faster.

## Step 4: Conduct Validity Tests

- **Reliability:** the consistency with which an assessment or test measures what it is designed to measure.
- **Validity:** the accuracy with which an assessment or test measures what it is designed to measure.

### Survey Instrument

- Can use face and content validity tests
- If passes, can start data collection



AR

We conduct survey research projects to provide information to decision makers. But, if the data used to produce that information are not reliable and valid, then that information is flawed. Thus, decisions based on that information will be flawed. So, we ensure our survey instruments gather accurate data by testing the instrument and testing the data collected using that instrument .

Testing for quality is generally categorized into two main areas – reliability and validity:

- **Reliability** is the consistency with which an assessment or test measures what it is designed to measure. Reliable survey instruments can be trusted to provide quality data at different times and under altered conditions. For example, a bathroom scale is a reliable test if it measures your weight as the same value each morning.
- **Validity** is the accuracy with which an assessment or test measures what it is designed to measure. For example, a bathroom scale that measures the same value as your doctor's calibrated scale is considered valid because it's accurate.

Note that reliability is a necessary condition, but not a sufficient condition, to ensure validity. In the case of our bathroom scale, our scale can be reliable (meaning that it measures the same value every morning) but, if it weighs 5 pounds lighter than the calibrated doctor's scale, it isn't accurate and thus, not valid.

In measuring the validity of a survey instrument (there are no reliability measures at this stage in the process), we can use two translation-related validity tests (face validity and content validity) that determines whether your survey is a good reflection of the experience being measured (i.e., the survey is a good translation of the experience). If your survey passes both tests, you can begin administering the survey. But, if your survey fails either test, you must modify the survey questions and re-test.

## Step 4: Conduct Validity Tests

### Face validity

- *On face value, does this survey make sense?*
- Minimum standard, non-statistical, weakest measure.
- Ask a few people to read items to determine if they interpret the meaning of questions as intended.

*Example: How many hours do you work?*

Reword to...

*In an average week, how many hours do you spend working:*

- › *Off-campus at a paying job?*
- › *On-campus in work-study?*
- › *Volunteering?*
- › *At an unpaid internship?*



Face validity answers the question, “On face value, does this survey make sense?” This is a non-statistical test and the weakest measure of validity. As you develop your survey, ask a few potential participants (e.g., students, faculty, alumni) to read the items to determine if they interpret the meaning of those questions the way you intended. If they do, then your survey has achieved face validity. If not, reword your questions to make them clearer.

For example, a survey question might be “How many hours do you work?” When you ask a few students to interpret the question, you find that one student counted their volunteer work because it must be completed to keep their scholarship, another student only counted the hours worked in a paying job, and another student counted the total hours worked in a month instead of a week. This survey metric is low-quality because there are different interpretations of the word “work” and you didn’t indicate a time frame.

To fix this question, you must reword it to:

**In an average week, how many hours do you spend:**

Working off-campus at a paying job?

Volunteering?

At a work-study job

At an unpaid internship?



## Step 4: Conduct Validity Tests

### Content validity

- *Does survey measure the entire experience?*
- Non-statistical form of validity that involves expert and/or literature review to determine whether the survey is complete.

*Example: You wrote a survey to measure the satisfaction with recreation services but accidentally excluded club sports.*

**Solution:** Ask the Director of Recreation Services to review survey



If your survey passes face validity, you can conduct the second translation-related validity test, called Content Validity, which answers the question, “Does my survey measure the entire experience?” This is another non-statistical form of validity that involves expert and/or literature review to determine whether the survey is complete.

For example, let’s say that you wrote a survey to measure satisfaction with your institution’s recreation services. Because you’re not an expert in recreation services, you accidentally excluded club sports. This survey failed the content validity test because it didn’t measure the complete experience.

To fix your survey, ask an expert (e.g., the Director of Recreation Services) to review your survey. He/she would easily see that a major component of the experience was missing. If that expert approves the survey content, then your survey has achieved content validity.

# Finished!

If your survey passed both face and content validity tests, you're finished with survey design!

- Load the survey into your online survey software
- Test each component of survey especially if there is branching/logic

If survey failed, re-work those metrics and retest.



If your survey passed both face and content validity tests, you're finished with survey design! You are now ready to load your survey into your online survey software and do all of the user testing of the survey like ensuring the invitation email is sent correctly and testing your branching or logic.

However, if the survey failed either face or content validity tests, you will need to re-work those metrics and retest until you successfully pass.

# First-Year Student Success Survey



Now, let's practice our process on our first-year student success survey.

# Step 1: Define the Mission

## Mission

*What are the factors that predict fall-term GPA and fall-to-spring retention?*

## Population

All first-year students



Step 1 asked us to define the mission and the population. Remember that our president wanted to know how to improve first-year student success. After talking with the Director of Institutional Research and Effectiveness, we learned that the true mission of the survey was: What are the factors that predict fall term GPA and fall-to-spring retention? And, we want to know that for all first-year students.

## Step 2: Identify Research Questions

What is the impact of academic preparedness on fall term GPA?

What is the impact of homesickness on student success?

What is the impact of characteristics like first-gen or military status have on success?

What is the impact of behaviors like study skills and time management on success?

Does the student's current residence impact their success?

What is the impact of social integration on success?

What is the impact of academic integration on success?

What is the impact of engagement on student success?

What is the impact of financial need on student success?

What is the impact of reliable transportation and dependable childcare on student success?



Based on that mission and our research in student success literature, we identify these research questions. Could we include other questions? Yes. But, our research shows that, for our student population, these are likely the questions that need to be answered.

If our institution was an elite institution where financial issues were not a concern, then we might remove this research question.

Or, if our institution has a residence requirement for all first-year students then questions about commuting could be removed.

And, as we noted earlier, we're only focusing on the social integration aspect of retention for our mini-survey.

## Step 3: Draft Survey Questions

Research Question	Associated Survey Questions
Does the student's current residence impact their success?	<b>Where do you currently live?</b> <ul style="list-style-type: none"> <li>• On-campus (residence hall, apartment)</li> <li>• Fraternity/sorority house</li> <li>• Off-campus with family</li> <li>• Off-campus not with family</li> </ul>
What is the impact of social integration on first-year student fall-to-spring retention?	<u>5 pt Likert Scale: Not at all, Slightly, Moderately, High, Very high</u> <b>To what degree:</b> Do you belong at this college/university? Are you accepted by other students at this college/university? Are you able to make new friends at this college/university?



As we stated earlier, we're only focused on one aspect of student success – the impact of social integration. Here, we drafted two research questions: Does the student's current residence impact their level of social integration? And, what is the impact of social integration on first-year student fall-to-spring retention?

For the first research question, I drafted a single question asking for their current residence. The data collected from this question will be used as a grouping variable in the analysis of the items related to social integration and to see if there are any differences in retention based on their living environment.

For the second research question, here are the three survey questions that I drafted. Could there be other questions added? Maybe. As long as it answers the research question AND doesn't make the survey too long, then consider adding them. These data will be analyzed in connection with students' fall-to-spring persistence to determine what, if any, relationship there is between persistence and social integration.

## Step 4: Conduct Validity Tests



Face  
Validity



Content  
Validity



As we described earlier, there are two validity tests we can employ on our survey metrics.

**Face Validity:** Ask a few first-year students to read your survey questions and ask them to interpret them. If they interpreted them the way you intended, then you have achieved face validity.

**Content Validity:** If you haven't done this already, conduct a literature search on the topic of social integration and/or consult a subject matter expert to determine if the metrics you wrote fully describe "social integration". If so, you have achieved content validity.

## Questions & Discussion



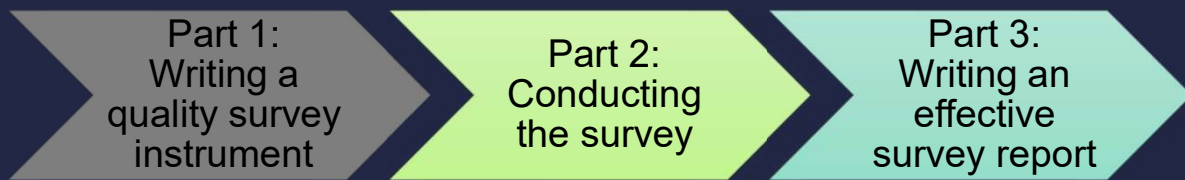
Let's pause to answer some questions.



# Two-Part Webinar Series

Webinar 1 – November 5, 2019

Webinar 2 – November 7, 2019



Remember that this is a two-part webinar series. On Thursday, we will discuss how to conduct our survey and how to write an effective report.

# Thank You

You will receive an email containing a link to evaluate this webinar. Please share your feedback!

Join us for the next webinar on November 7, 2019.

Darlana Jones, AIR



Also, don't forget that you'll be receiving an email with a link to a survey to give us feedback.

Thank you for attending and have a great rest of your day!

See you Thursday!