

Let's Talk: Communication Skills for Statisticians

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Session #1: Asking Good Questions

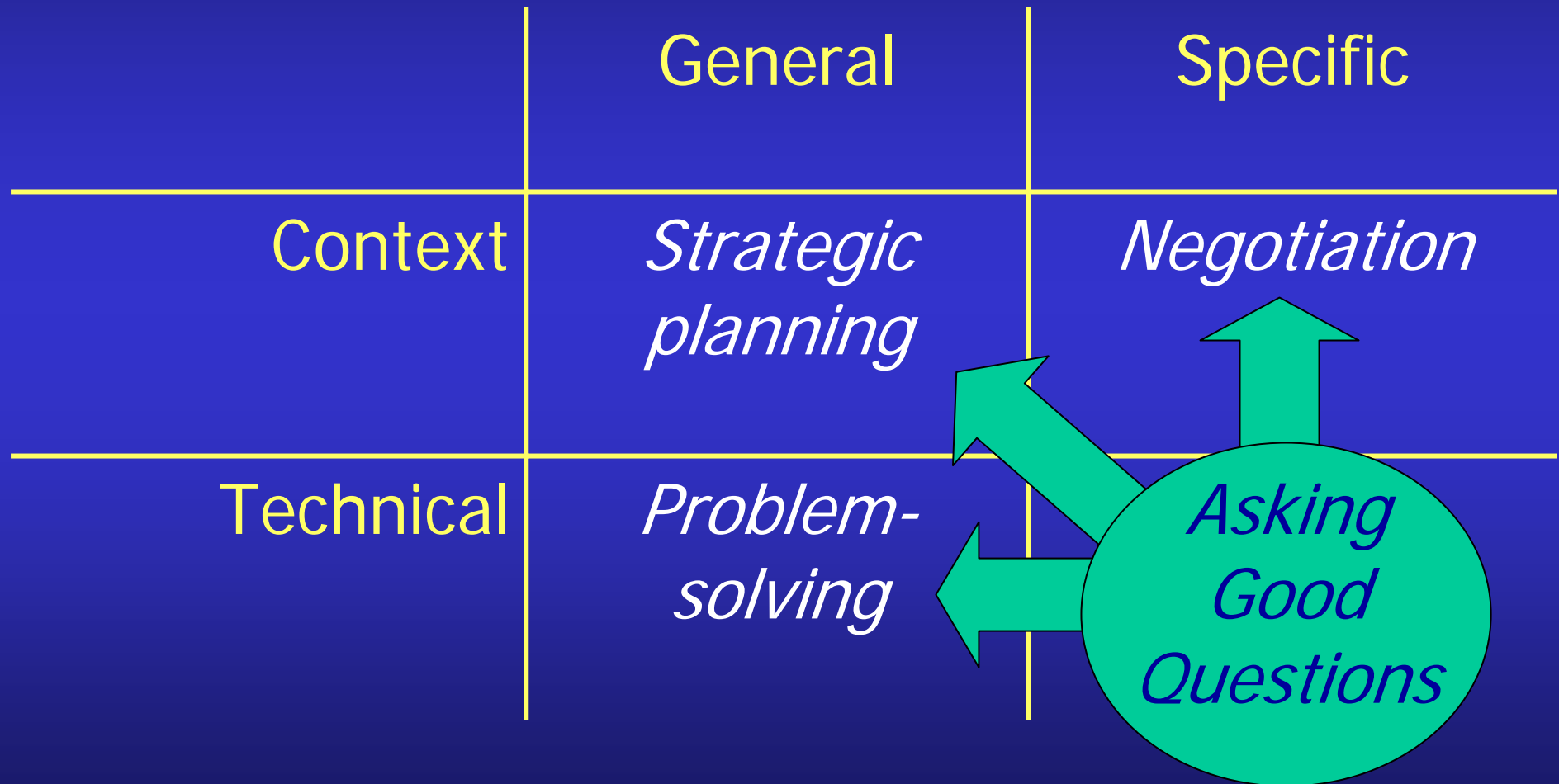
Session #2: Talking about Statistics

Session #3: Presenting Statistics in a Multi-Disciplinary Setting

Purpose

- Raise your awareness of the process of communication
- Describe how to communicate statistical information
- Identify communication issues that statisticians need to deal with

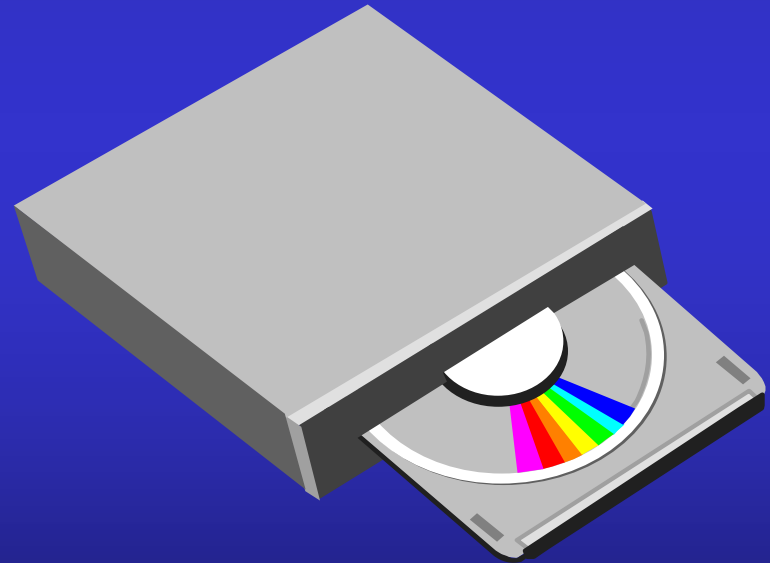
Session #1: What Do You Need to Know?



First Impressions

Video Segment 1 “Setting and Greeting”

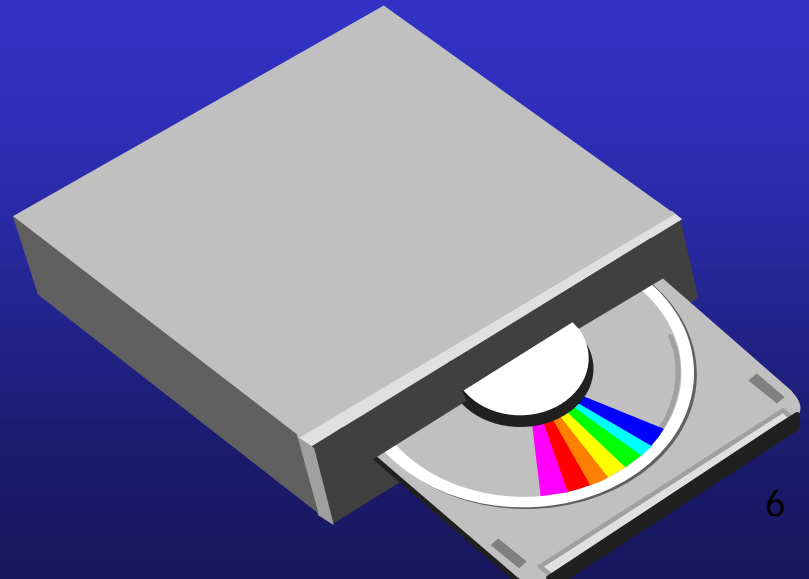
What do the physical layout and the greeting convey to the client?



An Example of Poor Communication Skills

Video Segment 2A “Gathering Information”

What is affecting the
technical communication
in this segment?



What Are the Consequences of Asking Questions Poorly?

1. "So, what is your target population?"

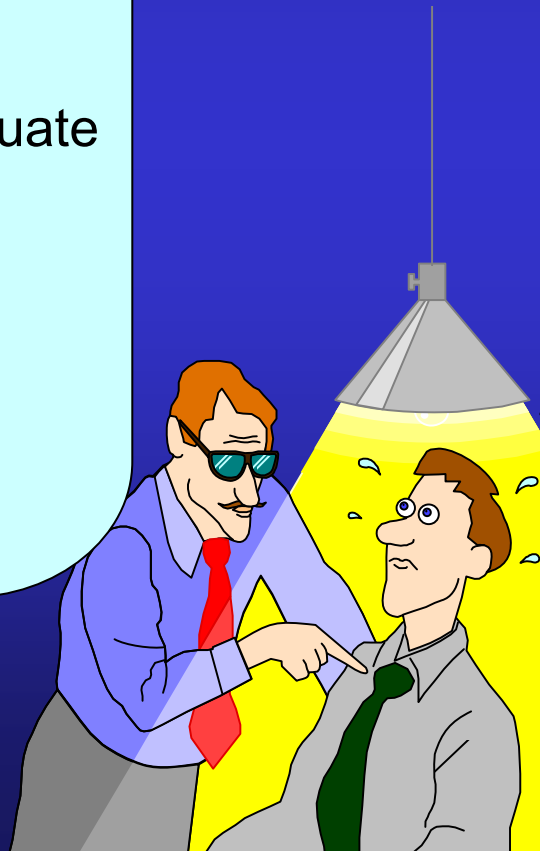
3. "Well, you mentioned this forty thousand. Now is that undergraduate students on their own or is it graduates and undergraduates?"

5. "OK, so are you able to get a random probability sample of this target population?"

2. "Uh, you mean the people we want to find out about?"

4. "Well, it's graduates and undergradates..."

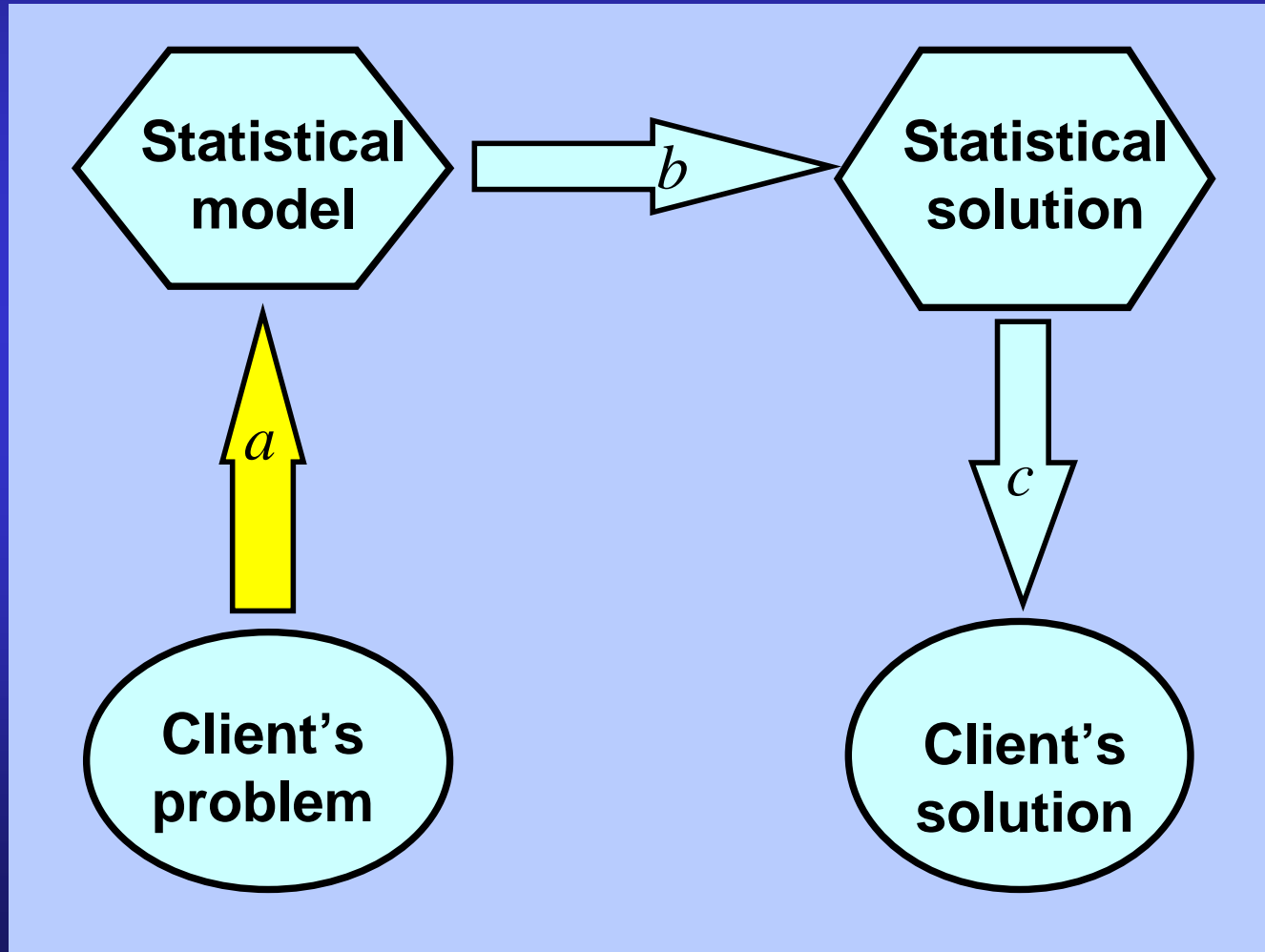
6. "A what?"



Core Issues in Statistical Consulting

1. Connecting the statistical approach to the discipline-specific project / problem
2. Defining appropriate roles for the statistician and others in the project group
3. Describing how the statistician should contribute to the project
4. Identifying the deadlines of the project

1. Connecting the statistical approach to the discipline-specific project / problem



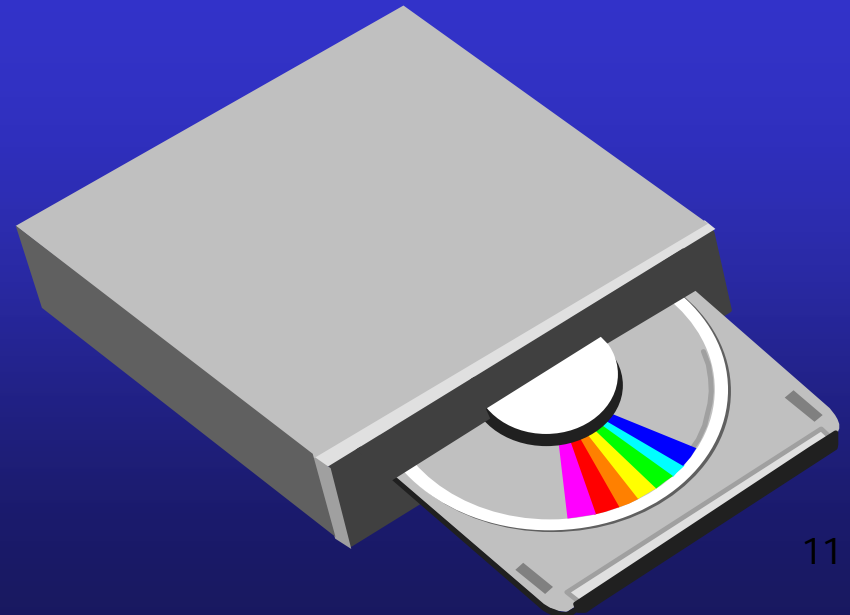
Core Competency: Oral Communication

- Tailors communication to the level and experience of the audience
- Utilizes strong listening skills to formulate direct, responsive answers to questions
- Effectively communicates complex ideas using analogies, visual and other techniques
- Creatively identifies and utilizes effective communication channels and methods

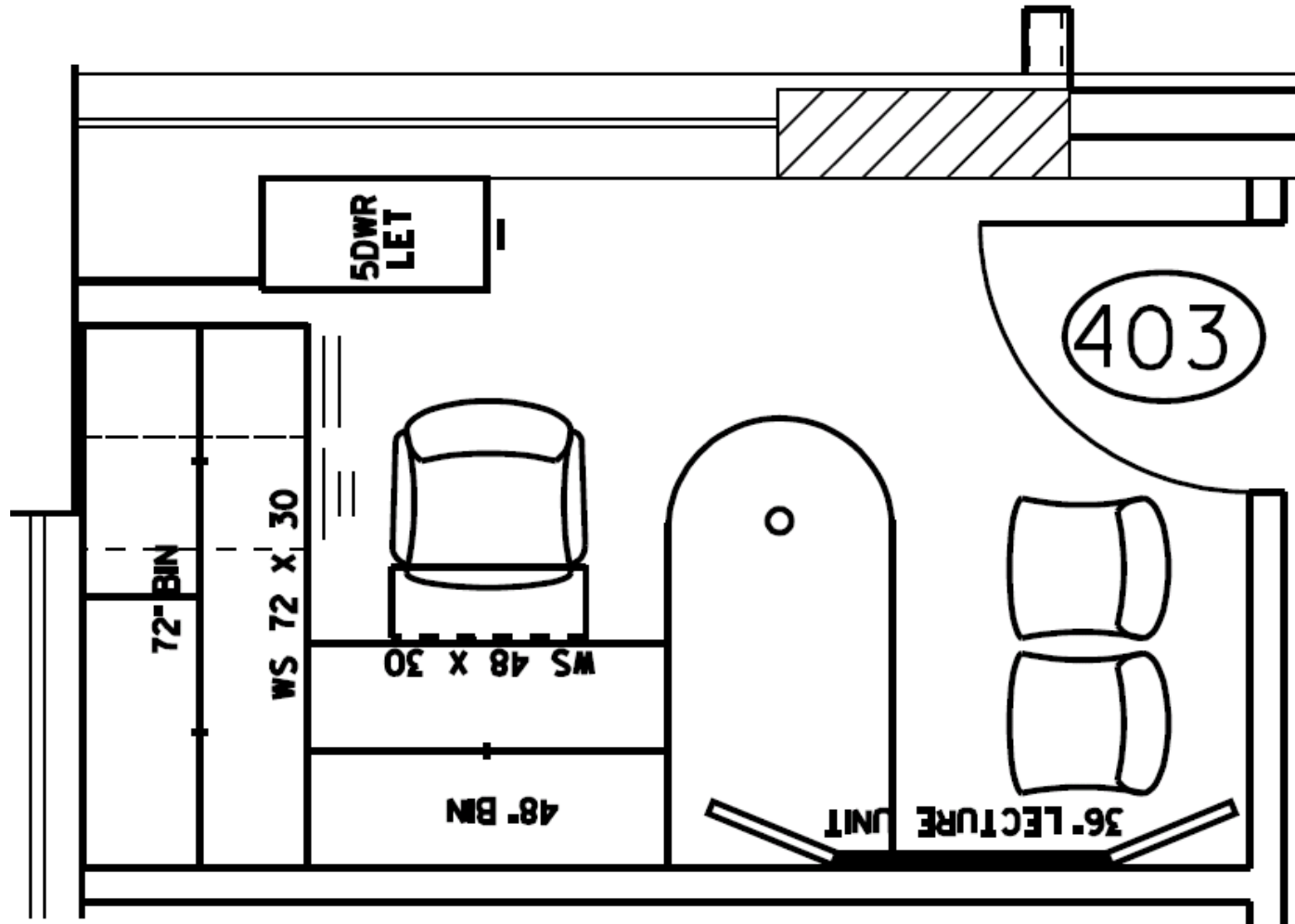
A Better First Impression

Video Segment 3 “Setting and Greeting”

What features of the setting and the greeting make this a more positive start?



Setting the Stage



Dimensions Of Communication Style

Start immediately with the business at hand.

Phrasing

Start with more social topics first.

Arrange information in a linear sequence.

Sequencing

Communicate in spirals, branching off on tangents.

Start with specific details, then move to generalities.

Specificity

Start with generalities, then move to specific details.

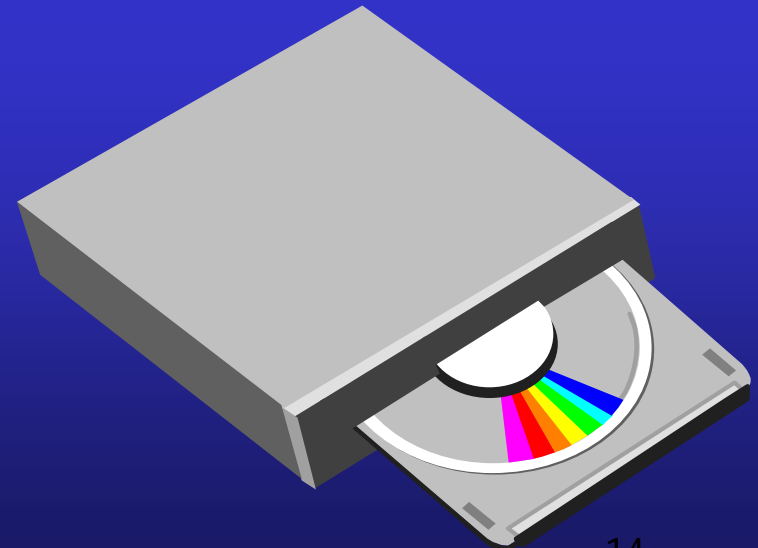
Asking Good Questions

Video Segment 4A

“Setting the Agenda, Gathering Information”

What is the client’s
communication style?

How did the consultant ask her
questions?



How to Ask Good Questions

2. Well, you know, last week one of our international students came in for our medical services and we had a really tough time trying to talk to them ... Generally I want to get a sense of what we're doing to help our client population.

1. What else would you like to cover today?

3. Oh, all right, so that's an overall objective, is to find out how people feel about the medical services and maybe to focus on the international students in particular.



Use Closed Probes for Specific Information

- Questions that prompt for brief, one-word answers
- A “forced choice” probe provides a limited set of options

Use Closed Probes for Specific Information

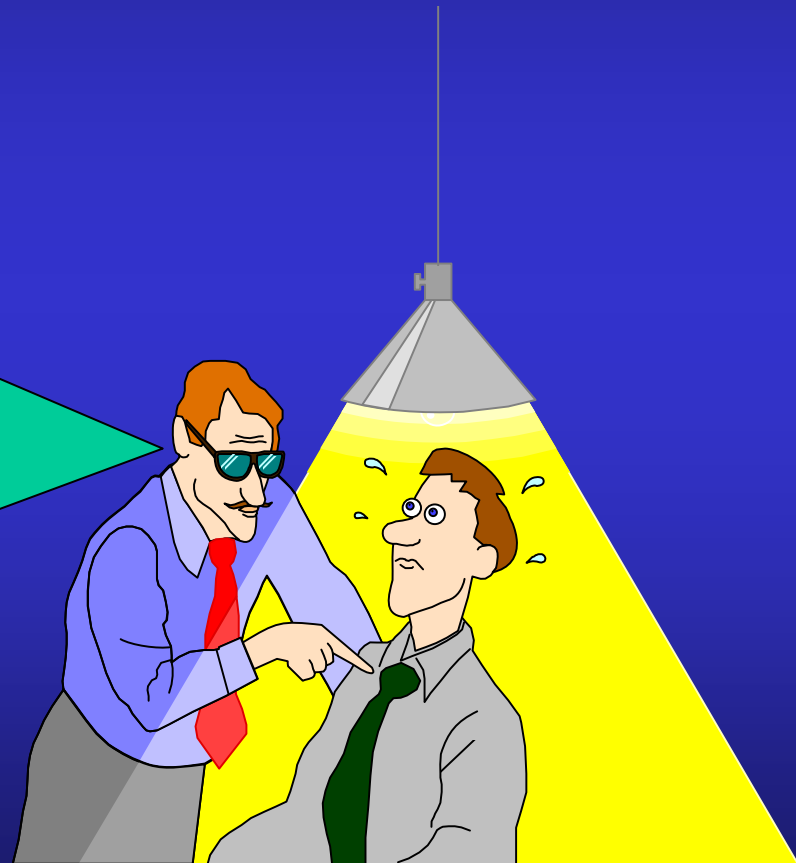
1. How many nursing homes are in the database?
2. Can you conduct interviews in person instead of over the phone?
3. Did each surgeon evaluate the records of all 202 patients for risk of complications?
4. Can you obtain a matching set of records for patients who did not use antidepressants?

Use Closed Probes for Specific Information

5. Will you be looking at current records only or will you include information from the past?
6. Are you able to change the order in which different animals receive the treatment, or must the order be the same for each animal?

Use “Forced Choice” Questions Carefully

“Well, you mentioned this forty thousand. Now is that undergraduate students on their own or is it graduates and undergraduates?”



Improve a Forced Choice Question

- Ask an open question instead
- Use the choices to illustrate what you mean
- Allow for other choices

How do you determine the order in which different animals receive the treatments?

Do you use the same order for each animal, or can the order be re-arranged?

Are there any restrictions on the order?

Use Open Probes To Get General Information

- Who / What / When / Where / How / Why
- Request for information
- Make a transition

Open Probes

1. How does this study fit in with other research in this area?
2. What other factors that might affect how people spend their money?
3. Who is likely to be excluded from the sample?

Open Probes

4. I'd like to learn more about the study's objectives.
5. What approach do you plan to take?
6. Is there anything more we should cover concerning the layout of the soil samples before we go on to discuss the variables you plan to measure?

Use Concrete Paraphrase to Confirm Your Understanding

1. Let me make sure that I understand what you have told me so far. You've gathered census and other economic data on the people in this state, and you want to forecast the future purchase of fishing licenses from this data.

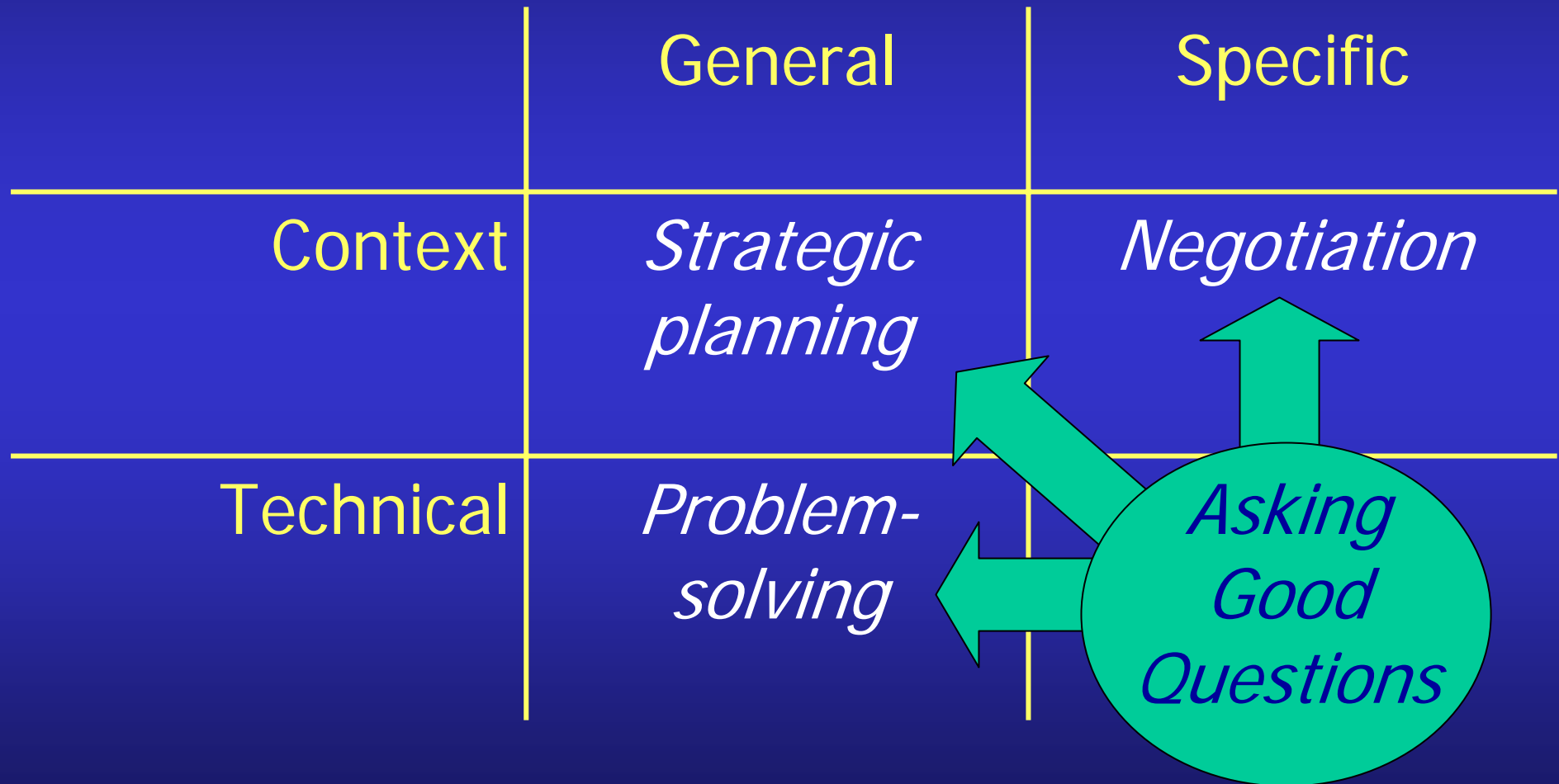
Concrete Paraphrase

2. Let me make sure I understand. This is a designed study, where you recruited subjects locally and then assigned them to the treatment or control at random.
3. So you will be targeting all students on this campus, and mailing out this survey to a random sample of them.

How Would Find This Out?

- Are you going to include just undergraduates, or undergraduates and graduate students?
- Are you going to do a telephone survey or a mail survey?
- Are you able to get a random probability sample of the target population?

What Do You Need to Know?



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Problem-Solving: What Can You Ask?

- An investigator came to my office asking for sample size requirements
- I could never get a clear picture of the overall situation
- She put my questions aside, all she wanted was “the number”
- After I finally coughed up a number for her she never got back to me
- I admit I did not try very hard to follow up with her either
- My impression is that the number was too large

For Further Training on this Topic

- Communication skills / presentation skills course
- Record your meetings / obtain feedback