

Designing Outcome-Based Student Surveys

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***Design based on a workshop by
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Purpose and Overview

- Define Survey Research as a useful methodology to measure outcomes
- Overcome the disadvantages when using a survey questionnaire
- Four Action Steps for effective process
- Ten steps to construct clear student outcome-based questions



What We Hope You Will Learn...

- Describe Survey Research in general terms
- Identify advantages and disadvantages of using a questionnaire in your classes
- Discuss four steps involved in surveying student outcomes
- Identify well constructed questionnaire items
- Identify strategies for using results effectively



Survey Research

- Survey Research is a method used to systematically access respondent information
 - Indirect - Perceptions or opinions
 - Direct – Skills observed- correct answers...
 - Application - shows understanding of concepts, sequences or theories by using them appropriately



Survey Research

- Methods of student data collection
 - Survey-Questionnaire (face-to-face/virtual)
 - Interviews (planned protocols)
 - Focus groups (planned discussion items)
 - Testing and class assignments (rubrics)
 - Online chats, forums, quizzes, survey...
 - Direct observation(student demonstration)
 - Field Reports (student observation/
application)



Questionnaires

- Administration of Questionnaires
 - Online - WebAccess (auto-tabulation)
 - Face to Face- paper & pencil
 - Email- you tabulate responses
 - Contracted - SurveyMonkey, Boomerang

Survey- Questionnaire

- Types of questions asked
 - Open-ended / Close-ended
 - Rate / Rank
 - One answer / multiple answers
- **For Discussion:**
 - Why collect data using a survey?





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Questionnaires

- What are the drawbacks -disadvantages?
 - Takes time to plan and construct a good instrument
 - Depends on self-reporting (respondents truthfully and accurately report)
 - Difficult to get a representative sample – depends on who is there that day
 - Hawthorne/ Halo Effect
 - Timing relative to grading (close to a test...)



4 Steps for Designing Questionnaires

- Step 1: Plan
- Step 2: Organize
- Step 3: Construct
- Step 4: Document



Step 1: Plan

- Clearly define the goals for the questionnaire (what information do you need and from whom)
- **Only include questions that directly address those goals**
- Determine how/ when you will administer the questionnaire and the time it will take including analysis of the results

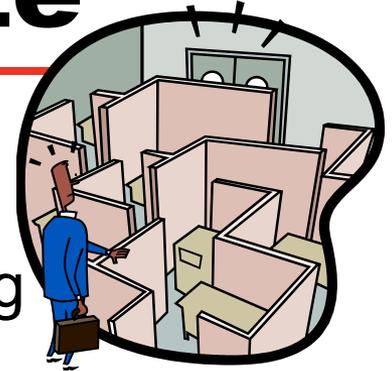


Step 1: Plan

- **Sound Survey Design** is a way of arranging the survey environment including the individuals or groups, places, activities, or even objects that are to be surveyed.
 - A simple *cross-sectional design* provides a snapshot of a group's opinions: e.g. a 10-minute interview to discover if a defined group liked an event and why.
 - A more complicated research design, *experimental*, relies on two or more administrations of the instrument (e.g. pre-post) or several groups of participants are compared.
 - **[See SLOAC handout, page 1]**



Step 2: Organize



- **Logical Flow**
 - Directions for completing
 - Quick and easy questions at the beginning
 - Group related questions
 - Consider order bias
 - Consider placement of most important questions
- **Short and concise** - as possible to be adequate
 - (KISS – Keep It Simple, Statistician)
- **Appearance** of questions - physical size, format, density of information



Step 2: Organize



Introduction to the Respondents

- Explain the purpose of the survey
- Provide confidentiality or explain level of anonymity students can expect
- Estimate time to complete
- Establish when it is due (date or window)
- Share how the results are going to be used to benefit the respondents or future students in this class

Step 3: Construct Questions

Ten Tips for Improved Question Writing



Ten Tips for Improved Question Writing

Number 1

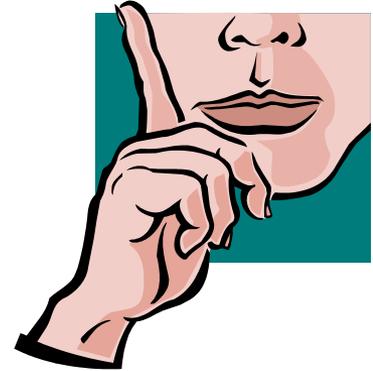
Write questions as clearly as possible
then pretest or run it by a colleague

Number 2

Define terms that you find are unclear or
not obvious to your respondents

Ten Tips for Improved Question Writing

FOR Discussion:



What's wrong with this question?
Has an instructor ever treated you
unfairly? (yes, no)



Ten Tips for Improved Question Writing

Change to:

To what extent has your instructor in this class graded you unfairly?

My instructor :

1. grades me fairly nearly all the time
2. has been unfair occasionally
3. is neither fair nor unfair
4. is often unfair in grading my assignments
5. is almost always unfair in grading

Please explain:

Ten Tips for Improved Question Writing

Change to:

To what extent has your instructor in this class graded you unfairly?

1. To no extent , nearly never unfair
2. To a little extent unfair
3. Is neither fair nor unfair
4. To a moderate extent unfair
5. To a great extent unfair

Please explain your rating:

Ten Tips for Improved Question Writing

Number 3

Make questions as specific and
concrete as possible



Ten Tips for Improved Question Writing

For Discussion:

What's wrong with these questions?



Do you read regularly?

or

How many hours a week do you read?



Ten Tips for Improved Question Writing

Change to this?

How many hours per week do you read?

- A. I never read
- B. 1 – 3 hours per week
- C. 4-6 hours per week
- D. More than 6 hours per week



Ten Tips for Improved Question Writing

Change to this?

How many hours in a typical week do you read for this course (text and online)?

_____ (typical week hours)



Ten Tips for Improved Question Writing

Number 4

Avoid AND! “double-barreled” questions:
make sure each question addresses
only one issue or attribute

Also avoid wasted response choices –
“I don’t know,” not applicable (when it is)



Ten Tips for Improved Question Writing

What's wrong with this question?

How satisfied are you with the quality **and** quantity of information you receive about issues in the San Mateo Community College District?

- Very satisfied
- Moderately satisfied
- I don't much care
- Moderately dissatisfied
- Very dissatisfied



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Ten Tips for Improved Question Writing

Change to:

On a scale of 1-5 where 1 = very dissatisfied...

How satisfied are you with the quality of information you receive about issues in the San Mateo Community College District?

- 5 = Very satisfied
- 4 = Satisfied
- 3 = Neither Satisfied nor Dissatisfied
- 2 = Dissatisfied
- 1 = Very dissatisfied



Ten Tips for Improved Question Writing

Number 5

Keep desired results in mind. What yield?

Only provide a “not applicable” option because you have specific reasons, such as students who did not have any access to the activity.

Ten Tips for Improved Question Writing

On a scale of 1-5 where 1 = not at all effective...

How effective a study tool were the online quizzes?

- 5 = Very effective
- 4 = Effective
- 3 = Neither useless nor effective
- 2 = Not very effective
- 1 = Not at all effective

Ten Tips for Improved Question Writing

Number 6

If you use multiple-choice questions
check to see if

- All possibilities are addressed in the choices
 - Choices are mutually exclusive

Ten Tips for Improved Question Writing

What's wrong with this question?

What was your high school GPA?

- A. 3.5 – 4.0
- B. 3.0 – 3.5
- C. 2.5 – 3.0
- D. 2.0 – 2.5
- E. 2.0 or less





Ten tips for Improved Question Writing

Change to:

What was your high school GPA?

- A. Above 3.50
- B. 3.00 – 3.49
- C. 2.50 – 2.99
- D. 2.00 – 2.49
- E. Below 2.00

Ten tips for Improved Question Writing

Number 7

Keep the response alternatives consistent



Ten tips for Improved Question Writing

What's wrong with this Question?

How would you rate the quality of communication provided by your instructor?

- Always
- Good
- Average/Fair
- Below Average
- Practically non-existent
- No opinion



Ten tips for Improved Question Writing

Improved to:

How would you rate the quality of communication provided by your instructor?

- Very Good
- Good
- Neither Good nor Bad
- Bad
- Very Bad

Ten tips for Improved Question Writing

Number 8

Avoid asking leading or potentially biased questions. Keep language neutral.



Ten tips for Improved Question Writing

What's wrong with this Question?

The bookstore stocks too many new books and not enough used books.

- Strongly Agree
- Agree
- No opinion
- Disagree
- Strongly Disagree

Ten tips for Improved Question Writing

Change to:

The number of used books compared to new books stocked by the bookstore meets my needs.

- Strongly Agree
- Agree
- No opinion
- Disagree
- Strongly Disagree

Ten tips for Improved Question Writing

Number 9

Avoid determiners in question – always, never, without a doubt, invariably



Ten tips for Improved Question Writing

What's wrong with this question?

The college bookstore always stocks enough used books for students to purchase for my class.

- Strongly Agree
- Agree
- No opinion
- Disagree
- Strongly Disagree

Ten tips for Improved Question Writing

Number 10

Avoid negatives or double negatives

Avoid confusing students and
confounding your results with multiple
possible interpretations.

Ten tips for Improved Question Writing

What's wrong with this question?

The number of people who did not show up for our team meetings did not affect the quality of our final project.

- Strongly Agree
- Agree
- No opinion
- Disagree
- Strongly Disagree





Ten tips for Improved Question Writing

Change to:

To what extent was your final project affected by team member absences ? *Rate on a scale of 1-5 (1= not at all affected ...5= affected to a very great extent...)*

_____.

If you rated a 4 or 5 , describe absence issue.

Survey Design: Basic Principles

- **Measurable Survey Objectives**

The examples in this presentation provide generic course or program SLOs. Objectives are measurable if two or more people can easily agree on all the words and terms used to describe its purposes.

- [\[SLOAC Handout, pg.1 \]](#)

Survey Design: Basic Principles

- Survey used to systematically access all or a sample of respondents:
 - **Indirect** – perceptions, attitudes or opinions not behavior or performance
 - **Direct** – observed behavior (skills)- information retention (correct answers)
 - **Application** – activity that shows deeper understanding of concept sequences or theories used to resolve a problem.

Use Effective Likert Scales

- Balanced numeric responses
- Valid terminology available from 50 years of research
- Odd versus even number choices? An issue of forced binary (+/-) choices or a neutral
- Number of alternatives (3,5,7 –), (2,4,6)
- Mixing terms in the response alternatives such as “agree” with “effective”

Use Effective Likert Scales

ITEM	Important / effective	Quality of my preparation in my college program
1. Critical writing skills	1 2 3	1 2 3 4
2. Problem-solving strategies	1 2 3	1 2 3 4
3. Research skills	1 2 3	1 2 3 4
4. Creativity/ originality	1 2 3	1 2 3 4

Survey Design: Basic Principles

Design Direct Measures [[Handout 1.2](#)]

Direct measures assess student learning and application consistent with the SLO.

In multiple-choice and essay exams, the instructor constructs questions to measure student knowledge (comprehension of concepts, applications, fact).

You may establish baseline scores initially and re-measure using a comprehensive exam at completion.

Survey Design: Basic Principles

Involve Students in Direct Measures

<i>Outcomes-criteria</i>	<i>Specific Expectations</i>	<i>Weight-Point Value</i>
Area 1: Accessible Presentation Delivery	<u>Clear delivery</u> . Pace/ word choice an aid to audience understanding. Stance balanced. Eye contact. Gesture fit content. Clear voice and articulation	5 pts possible
Area 2: Understandable Structure & Flow	Introduction: Attention Step Preview of 3-5 main points Transitions & Summary Content in an order Conclusion	6 pts possible
Area 3: Interesting Audience appeal	Topic choice <u>interesting</u> to group Audience likely to <u>learn more</u> re: topic. Speaker <u>credible</u> overall	4 pts possible
	Your total score	15 Points Possible

Survey Design: Basic Principles

Comparing Groups: Classes Over Time

- Design a survey tool **valid and reliable** enough to use for several years (pilot long enough to get the bugs out)
- Take **student changes** into account (units complete, courses in the field, demographics)
- Consider **performance** change scores (% change by individuals or respondent groups)



Step 4: Document

- Document your construction process in enough detail so you could compare classes over time.
- Conform to the level of internal confidentiality that you promised your respondents if the content is sensitive



Web Access Tools Available Now

- Course site allows chat, forum and questions
- All student access at once
- Use quiz format for answers with identifiers
- Use composite results



Discussion....



- Keep your results in mind...what do you need to know?
- What need not be asked because you don't care!
- What demographics are already available without asking?
- Using G numbers to access demographics in general, not linked to results of specific student
- What should be confidential? What should not be asked?



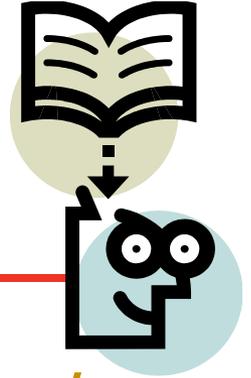
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Summary



- Questionnaires and surveys can provide real time outcomes information if you...
- Take the time to plan the yield, organize, build, and test your questionnaire.
- Consider upfront how you will organize and analyze the data...how much time will you have when the data comes in? What do you actually need?
- Develop survey items from the perspective of your student respondents.
- Honestly decide what changes to the course (midstream and next term) you will consider.

References



<http://www.skylinecollege.edu/facstaff/GovCommittees/sloac/examples.html>

- Feigelman, William and Yih-Jin Young. 2006. *Hands on Sociology, 3rd Edition*. San Francisco, CA: Pearson.
- Fink, Arlene. 1995. *The Survey Kit, volumes 1-9*. Thousand Oaks, CA: Sage Publications, Inc.
- Leedy, Paul D. and Jeanne Ellis Ormrod. 2005. *Practical Research: Planning and Design, 8th Edition*. Upper Saddle River, NJ: Pearson.



More References

- McDaniel, Jr., Carl and Roger Gates. 1994. *Contemporary Marketing Research, 2nd Edition*. New York: West Publishing Company.
- Miller, Delbert. 1993. *Handbook of Research Design and Social Measurement, fifth edition*. Newbury Park, CA: Sage Publications, Inc.
- Neuman, W. Lawrence. 2004. *Basics of Social Research: Qualitative and Quantitative Approaches*, San Francisco, CA: Pearson.
- Salkind, Neil J. 2003. *Exploring Research, 5th Edition*. Upper Saddle River, NJ: Pearson.