

Module 5: Data Collection



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Learning Objectives

At the end of this workshop, participants will:

- Become knowledgeable about data collection options
- Become knowledgeable about the strengths and weaknesses of the different data collection approaches
- Understand that measuring performance requires the identification of an appropriate data collection procedure



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Two Broad Types of Data

Quantitative Data: Represented numerically and analyzed statistically

- allow calculations to be made about post-intervention changes
- use aggregation to make judgments
- used to construct explanatory or predictive models
- permit some degree of comparison across settings
- allow for trend analyses over time
- provide an overview, which informs follow-up qualitative analysis

Qualitative Data: Represented through words

- Useful for discovery, developing hypotheses, testing hypotheses, and when one needs to supplement, validate, explain, or reinterpret quantitative data gathered from the same setting.
- Generally gathered through observations, interviews, or documents.
- Require some processing. Raw field notes need to be corrected; tape recordings need to be transcribed and corrected. Some data might be appropriate to summarize in numerical form.

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Data Collection: General Rules

• Use available, valid data whenever possible.

- Faster, cheaper, easier

• But find out how

- data were collected
- variables were defined
- data accuracy was ensured



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Data Collection: General Rules

- Data collection procedures follow from the choice of an evaluation design or mode of enquiry.

- Data are used to answer evaluation questions or support monitoring indicator, and should only be collected if they serve these functions.

- **If you must collect original data:**
 - Establish procedures and adhere to them
 - Maintain accurate records of definitions, coding
 - Pre-test, pre-test, pre-test, pre-test
 - Verify accuracy of coding, data entry and check

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Ways to Collect Data

- Extracting from existing / archival data (agency records, reports, databases, etc.)

- Observations
 - Unstructured Observations (with or w/out participant knowledge)
 - Structured - Trained Observer Ratings

- Surveys
 - Self-administered paper surveys
 - Web/Computer surveys
 - Telephone surveys
 - In-person interviews

- Focus groups / group interviews

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Existing Data: Key Issues

Are the data:

- Valid?
- Reliable?
- Accurate?

We must ask how researchers:

- operationalize their measures?
- collected the data?
- ensured accuracy in collecting and transcribing data?

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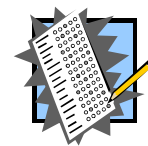
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Procedures for Collecting Existing Data

Collecting data systematically from files or documents:

- use a data collection instrument or computer program that specifies exactly what data you want
- pre-test the instrument or program
- when manually collected
 - establish decision rules
 - train coders
 - test for inter-rater reliability



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Existing Data

Advantages:

- Often cheaper and faster than collecting data yourself

Disadvantages:

- Exact data you need may not be available
- May have difficulty getting access
- Errors in the database
- Possible coding problems

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Observation

- Observation of environment
- Observation without participant knowledge
- Observation with participant knowledge

Examples:

- ✓ Observe classroom activities to measure the amount of time spent on hands-on learning activities
- ✓ Observe amount of traffic on a road from the village to major town.

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Example of Observation Methods: Trained Observer Ratings

Trained Observer Ratings are based on observations made by trained persons using a standardized rating scale – to produce consistent ratings across raters and time.

- ✓ Low cost
- ✓ Easy to understand
- ✓ Actionable

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Rating Scales Can be Based on:

- Detailed wording descriptions
- Drawings
- Photographs
- Combination of these

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Word Description: Road Condition Rating Scale

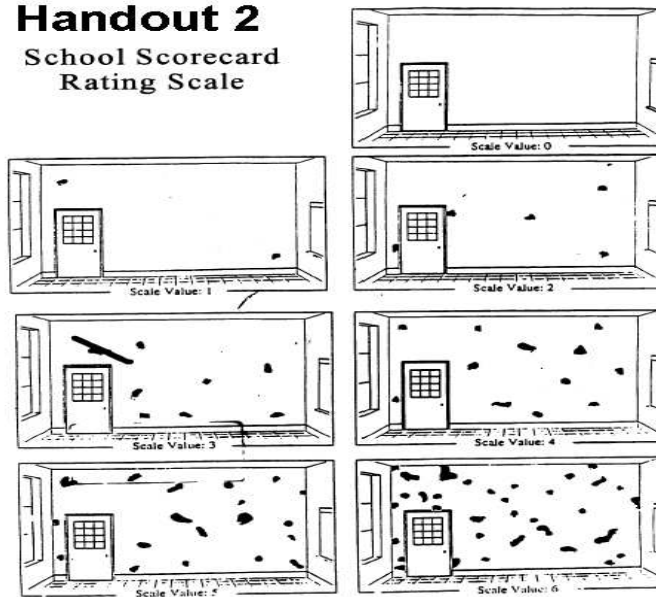
Rating	Condition	Description	Comments
9	Excellent	No faults at all	Recently completed work
8	Good	No damage, normal wear, small cracks	
7	Fair	Slight damage, crack-filling or minor leveling required	Average rating for city's pavements and sidewalks
6	Repair	10% of complete replacement cost	Pavement requires complete preventative overlay
5	Repair	25% of complete replacement cost	Eligible for reconstruction
4	Repair	50% of complete replacement cost	
3	Repair	75% of complete replacement cost	Total reconstruction probably required
2	Repair	More than 75% of complete replacement cost	Requires complete reconstruction
1	Impossible to repair		

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Drawings: Rating Scale for Room Conditions

Handout 2
School Scorecard
Rating Scale



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Photographic Rating Scale: Rideability



Condition 1: Smooth



Condition 2: Slightly bumpy



Condition 3: Considerably bumpy



Condition 4: Safety Hazard

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Exercise: Rating Cleanliness Using a Photographic Rating Scale

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Photographic Rating Scale: Cleanliness



Condition 1: Clean overall, very little litter



Condition 2: Light to moderate litter



Condition 3: Heavy litter



Condition 4: Severe litter problem, safety and rodent hazard

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Observation

Advantages:

- actual situation or behavior (not self-reports)
- real-time (avoids memory decay)
- Actionable

Disadvantages:

- observer bias
- coding problem
- can be labor intensive and costly

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Surveys

Survey Question Options

- Structured
 - close-ended questions

- Unstructured
 - open-ended questions

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Surveys

General Guidelines

- Keep it simple, clear, easy, short
- Respect respondents time and intelligence
- Tell them how they were selected and why their participation is important
- Do no harm: keep responses confidential

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Surveys

Writing Questionnaires

- Use clear, simple language
- Encourage a range of responses
- Ask only one question at a time
- Focus on current experiences
- Leave exits (no opinion, not applicable)
- Pre-test, pre-test, pre-test



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Surveys

Common Administration Methods

- Mail Questionnaire (self-administered)
- Web-based Surveys
- Phone Surveys
- In-person Interviews

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What Makes A Good Survey ?



- Quality of the questionnaire
- Adequate pre-testing
- Quality of interviewers
- Quality of the sample
- Extent of respondent recall
- Sensitivity of the questions
- Confidentiality
- Valid response rates
- Accuracy of data entry

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Focus Groups



- Small groups (6-12 people)
- Comfortable environment
- Good facilitation essential
- Facilitator and note-taker
- Tape record if possible
- Ask few open-ended questions
- How many? Until no new themes emerge
- What should you provide - food, incentives, childcare?

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Focus Groups: Sample Questions

- What did you learn at the teacher college that is most helpful to you in teaching primary school students?
- What are your greatest challenges in teaching primary school students?
- What should the teacher college teach to ensure that graduates are prepared to meet current challenges?

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Focus Groups

Advantages:

- relatively quick
- may be less expensive (staff time) than in-depth interviews
- provides flexibility to make changes in process
- can examine different perspectives
- fun!!

Disadvantages:

- analysis: very time consuming
- risk of interpretation bias
- have to control dominant talkers
- may be expensive when calculated on a per person basis

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Combinations of Methods

Triangulation is the application and combination of several research methodologies in the study of the same phenomenon.

- It can be employed in both quantitative (validation) and qualitative (inquiry) studies.
- It is a method-appropriate strategy of founding the credibility of qualitative analyses.
- It is the preferred line in the social sciences

By combining methods, researchers can hope to overcome the weakness or intrinsic biases and the problems that come from single method, single-observer, single-theory studies.

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Combinations of Methods

Quantitative and qualitative data collection

- Available data with surveys
- Surveys with observations
- Observations with available data
- Surveys with focus groups

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Evaluation Plan

Case Projects

- Identify **Data Sources** and **Data Collection Methods** for each evaluation question or sub-question in the Evaluation Plan.

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Evaluation Plan

General Questions	Specific Sub-Questions	Type of Question	Type of Design	Indicators & Measures	Data Sources	Data Collection & Sampling	Data Analysis

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Data Collection for Monitoring

We need to

- establish targets *and*
- collect baseline data....



...If you do not know where you are,
how can you know where you are going?

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Arrangements for results monitoring

Identify Data Sources and Data Collection Instruments. Set Baselines and Targets for each. Identify who will be responsible for data collection.

Project Outcome Indicators	Baseline Value	Target Values			Data Collection and Reporting		
		Year 1	Year 2	Year 3	Frequency and Reports	Data Collection Instruments	Responsibility for Data Collection
Intermediate Outcome Indicators							
Component 1:							
Component 2:							

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Monitoring: Baseline Data

Baseline data...

- are initial information on program participants or other program aspects collected prior to receipt of services or program intervention.
- may be used later to provide a comparison for assessing program outcomes or impacts.

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Monitoring: Availability of Baseline Data

- Baseline data are vital for setting future targets.
- Identify the extent of current availability of data for each performance outcome measure.
- Where data are not available, identify the needed data collection procedures.
- Meaningful target-setting may not be possible until initial data have been obtained.
- May show that time trend data are also available (that is, data for previous years).

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Monitoring: Setting Targets

- Examine actual achievements in past periods
- Consider expected budgeted resources (e.g., funds and staff)
- Consider external factors
- Consider using ranges or contingency targets
- Provide higher level review
- Balance political needs and the need for realistic targets
- Reassess targets periodically

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Group Project Exercise

Your project – for evaluation

- For each question or sub-question, identify the source of the needed data.
- Determine the best method for collecting these data
- Insert data source and data collection methods into the appropriate columns

Your project – for monitoring

- For each outcome objectives, identify the source of the needed data.
- Determine the best method for collecting these data
- Insert **Baselines, Targets, Data Collection Instruments**
- Identify who will be responsible for data collection.

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