



Program Evaluation Toolkit



Module 5

Data Quality

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Data and
Evaluation
Questions



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Chapter 1



Data Types



Data Types: Quantitative and Qualitative

- You may need both quantitative and qualitative data to fully address your evaluation questions.



What Are Quantitative Data?

- They are numeric.
- They include survey responses, assessment results, and sample characteristics (for example, age, years of experience, qualifications).¹
- They are often used to answer “how much/many” and “to what extent” questions.



What Are Qualitative Data?

- They are non-numeric.
- They include interview responses, focus group responses, and information from observations.
- They are often used to answer “why” and “how” questions.²



Using Both Quantitative and Qualitative Data

- With both quantitative and qualitative data, you can more easily get a complete picture of the implementation of your program and the progress in meeting its short-term, mid-term, and long-term goals.²



AMMP! Example 1

- To address the evaluation question “What barriers exist that prevent students from completing homework?” the AMMP! evaluation team decides to interview teachers, parents, and students. The team collects details about how students spend their time in and out of class, along with perceptions of engagement and common distractions for students.



AMMP! Example 2

- To address the evaluation question “How do AMMP! participant scores on high school math placement tests compare to those of nonparticipants?” the evaluation team decides to collect math placement test scores from all students who participated in AMMP! and from all students who did not participate, within the same school.



AMMP! Example 3

- After collecting qualitative interview data to address the question “What barriers exist that prevent students from completing homework?” the AMMP! Evaluation teams decides to develop a survey for teachers, parents, and students. The survey includes questions with a scale from *strongly agree* to *strongly disagree* as well as open-ended questions.



Using Quantitative and Qualitative Data in Tandem

- Just as an evaluation team may use multiple evaluation designs, the team will often use both types of data.

Data Sources Advantages and Disadvantages

Methods and Tools	Purpose	Basic Information	Advantages	Disadvantages
Assessments and tests	<ul style="list-style-type: none"> • Often used to measure academic outcomes or establish a baseline related to academic performance. 	<ul style="list-style-type: none"> • Usually quantitative. • Can be administered electronically or in person. • Can be administered individually or in groups. 	<ul style="list-style-type: none"> • Multiple items may be used in combination to create a subscale, often providing a more reliable estimate than any single item. • Can be used to establish a baseline for academic performance prior to implementation of a program. • Can be cost effective because these data are often collected by schools and districts. 	<ul style="list-style-type: none"> • If assessment is not aligned well with the program, data may not be a meaningful indicator of program success. • If reliability and validity are not adequate, the data may be poor in quality and inaccurate conclusions may be drawn.
Administrative databases	<ul style="list-style-type: none"> • Often related to student demographic characteristics, attendance, behavioral referrals, or graduation rates. 	<ul style="list-style-type: none"> • Usually quantitative. • Collected through normal education agency processes. 	<ul style="list-style-type: none"> • Can be cost effective because the data are often collected by schools and districts. • Can add additional contextual information to program outcomes, such as the backgrounds of students who achieve expected outcomes. 	<ul style="list-style-type: none"> • A data request is often needed to obtain administrative data. • Entry errors may decrease accuracy. • Data collection process for administrative data is out of the control of the evaluation team.
Surveys and questionnaires	<ul style="list-style-type: none"> • Often used to gather information about self-reported perceptions of agreement, importance, behavior, quality, or satisfaction. 	<ul style="list-style-type: none"> • Can be either quantitative (for example, responses to scaled questions) or qualitative (for example, responses to open-ended questions). • Can be administered in person, over the phone, online, or through the mail. 	<ul style="list-style-type: none"> • Surveys can be used to quickly collect information from large numbers of individuals. • If conducted in person, response rates can be high. • Electronic or online surveys can save time and costs with data entry, and they can improve data quality by reducing data entry errors. 	<ul style="list-style-type: none"> • Cannot ask additional probing questions. • Response rates of mail and electronic surveys can be low. • If questions are confusing or unclear, resulting data may be unusable.



Additional Resources

- *Data Sources: Advantages and Disadvantages*





Chapter 1 Complete



Recommended next: Chapter 2 – Data Quality Considerations



Thank You

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and for access to our many free resources.

ies.ed.gov/ncee/edlabs/regions/central/index.asp

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