



# Data Collection Planning Matrix

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An evaluation plan should include a clear description of what data will be collected, from what sources and how, by whom, and when, as well as how the data will be analyzed. One of the most efficient ways to create and communicate a data collection plan is to organize the information in a matrix. This format links evaluation questions with the specific data that will address the questions. This helps ensure that there is a feasible plan for collecting all the data necessary to answer each evaluation question and that all collected data will serve a specific, intended purpose. The table below may be copied into another document, such as a grant proposal, and edited/expanded as needed. A filled-in example is provided on the next page.

Evaluation Question:					
Indicator	Data Source and Methods	Responsible Party	Timing	Analysis Plan	Interpretation

If space is limited, such as in a National Science Foundation proposal, fewer columns may be used. It is most critical to include the evaluation questions, indicators, data sources and methods, and timing.

## DEFINITIONS

**Evaluation Questions** are overarching questions about a project’s quality or impact. The number of evaluation questions depends on the scope and purpose of the evaluation; three to seven questions is typical. Questions should clearly align with project goals and activities, address both outcomes and implementation.

**Indicators** are specific pieces of information about an aspect of a project—basically, what will be measured in order to answer the evaluation questions. It is useful to use multiple indicators, using both qualitative and quantitative data, to address an evaluation question.

**Data Sources** are the entities from which data will be collected. Typical data sources for ATE evaluations include project personnel, students, graduates, faculty, project partners, business and industry representatives, institutional records, website usage statistics, and teaching and learning artifacts.

**Data Collection Methods** are the means by which information will be gathered from each data source. Typical methods include surveys, focus groups, interviews, observations, and institutional database queries.

**Responsible Parties** are the individuals or organizations tasked with collecting the needed information. In many cases, data collection requires cooperation among multiple entities. For example, an external evaluator may be responsible for administering a survey, but a member of the project staff may need to supply the contact information.

**Timing** identifies when and how frequently data will be collected (e.g., at events, quarterly, annually). Data collection should be scheduled so that the information will be obtained when it is needed for reporting purposes

and decision making. In addition, it should not conflict with other activities taking place in project’s context (e.g., other major data collection activities, semester breaks, final exams).

**Analysis Plan** describes how the quantitative and qualitative data will be summarized into meaningful, usable information. For example, raw data from a survey may be stored in the form of numbers and text in a spreadsheet. This information needs to be summarized to make it usable. Basic analyses would include producing descriptive statistics (such as counts, means, and percentages) and summarizing the text entries to identify themes.

**Interpretation** describes how the analyzed data will be used to reach conclusions related to the evaluation questions. Interpretation typically requires comparing the analyzed data with something else to reach a judgment, such as project goals, similar project outcomes, industry needs, or stakeholder expectations.

**EXAMPLE**

<b>Evaluation Question:</b> To what extent are students using education pathways established by the project?					
<b>Indicator</b>	<b>Data Source and Methods</b>	<b>Responsible Party</b>	<b>Timing</b>	<b>Analysis</b>	<b>Interpretation</b>
Number of high school students enrolled in the college’s wind energy technology courses	Query of institutional database	Project director obtains from institutional research office	End of each semester	Counts	Comparison with project target of 10 per semester
Percentage of dual-enrolled high school students who intend to pursue wind technology degrees or certificates	Paper-and-pencil survey of dual-enrolled students	External evaluator develops survey and conducts analyses; faculty administer survey	End of each semester	Descriptive statistics, disaggregated by demographic characteristics	Comparison with project target of 60 percent or more, with one-third or more from groups that have been underrepresented in STEM
Students’ perceptions of what affects their education or career interests	Focus group with students	External evaluator	End of each spring semester	Thematic coding to determine factors that increase or suppress interest in wind technology	Identify which, if any, factors can be influenced by the program
Percentage of students who began as dual-enrolled who graduate with wind technology degrees or certificates	Query of institutional database	Project director obtains from institutional research office	End of each semester after first cohort is eligible to receive degree or certificate	Descriptive statistics, disaggregated by demographic characteristics	Comparison with project target of 40 percent or more, with one-third or more from groups that have been underrepresented in STEM