

Methods for Gathering Information

Information can be gathered in a number of ways. The National Science Foundation (NSF) has developed a table listing different methods and the advantages and disadvantages of each. The table below summarizes those major procedures.

To ensure we do not perpetuate the legacy of inappropriate information-gathering, we must continually reframe our methods so they are responsive to our communities, cultures, and traditions.

Advantages and Disadvantages of Various Data Collection Procedures*

PROCEDURE	ADVANTAGES	DISADVANTAGES
Self-administered questionnaire	Inexpensive. Can be quickly administered if distributed to a group. Well-suited for simple and short questionnaires.	No control for misunderstood questions, missing data, or untruthful responses. Not suited for exploration of complex issues.
Interviewer-administered questionnaires (by telephone)	Relatively inexpensive. Best suited for relatively short and non-sensitive topics.	Proportion of respondents without a private telephone may be high in some populations. As a rule, not suitable for children, older people, and non-English speaking persons. Not suitable for lengthy questionnaires and sensitive topics. Respondents may lack privacy.
Interviewer-administered questionnaires (in person)	Interviewer controls situation, can probe irrelevant or evasive answers; with good rapport, may obtain useful open-ended comments.	Expensive. May present logistical problems (time, place, privacy, access, safety). Often requires a lengthy data collection period unless project employs large interviewer staff.
Open-ended interviews (in person)	Usually yields richest data, most details, new insights. Best if in-depth information is wanted.	Same as above (interviewer administered questionnaires); often difficult to analyze.
Focus groups	Useful to gather ideas, different viewpoints, new insights. Good for improving question design.	Not suitable for generalizations about populations being studied.
Tests	Provide “hard” data which administrators and funding agencies often prefer: relatively easy to administer; good instruments may be available from vendors.	Available instruments may be unsuitable for treatment population; developing and validating new, project-specific tests may be expensive and time consuming. Objections may be raised because of test unfairness or bias.
Observations	If well-executed, best for obtaining data about behavior of individuals and groups.	Usually expensive. Needs well-qualified staff. Observations may affect behavior being studied.

* Adapted from the National Science Foundation, *User-Friendly Handbook for Project Evaluation: Science, Mathematics, Engineering and Technology Education*. NSF 93-152. p. 44.