

Definitions and Characteristics of High Quality Research

SURVEYS AND QUESTIONNAIRES

Definition:

A survey or questionnaire is a non-experimental, opinion-based research method. The purpose of a survey or questionnaire is to gather statistical information from people about a topic. Most often, surveys and questionnaires are used to discover descriptive characteristics of non-observable phenomena such as perceptions, attitudes, behaviors and beliefs (e.g., a school satisfaction survey).

Characteristics of High Quality Surveys or Questionnaires Include:

- Clear and specific questions scaffolded in order to discover particular attitudes and beliefs
 - Sampling methods that allow estimates from the group to credibly represent the targeted population and reduce bias
 - Short, uncomplicated survey design and an easy return process to ensure a high response rate
 - Good questions that:
 - Use simple and direct language,
 - Are non-threatening and evoke an honest response,
 - Are limited to a single concept,
 - Accommodate all possible answers,
 - Produce variability in responses types so the responders do not develop a routine answer pattern.
 - Good questions do not:
 - Use unfamiliar words or abbreviations,
 - Make unwarranted assumptions,
 - Imply a desired answer,
 - Use emotionally charged words.
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FOCUS GROUPS

Definition:

A focus group is a professionally facilitated discussion among a typically small set of people in order to gather opinions about a topic. Focus groups are often made up of homogeneous groups (teachers, parents, age groups, gender specific groups, etc.). It is most often used to inform, forecast or problem solve. A group facilitator frames the objective of the discussion, sets the tone and directs the discussion with initially prepared questions. Professional facilitators are trained to listen carefully, probe discussants for reasons behind their opinions and ask for greater descriptions of initial responses. Themes, preferences and beliefs are explored and

recorded. Multiple focus groups on the same topics are often used to gather a range of opinions. Focus groups are not usually chosen to be a representative sample of a population as a whole.

Characteristics of a High Quality Focus Group Include:

- A rationale for the select group chosen as the focus group
 - Evidence of planning and preparation
 - Clear goals
 - Key topics identified
 - Well-worded open-ended questions prepared
 - Selection of a successful effective facilitator with knowledge of the key topics
 - Clear schedule, agenda and ground rules for participants
 - Data analysis outcomes
 - Responses from the focus group(s) are captured
 - Classified into themes
 - Summary and interpretation of the results and any recommendations
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PROGRAM EVALUATIONS

Definition:

Program evaluation is the systematic collection of information about how a program is operating or has operated, whether the goals set are or were accomplished with determinations about impact. Program evaluation results in judgments that may improve effectiveness and inform decisions about the future of the program. Typically, the two most used are formative and outcome evaluation.

Formative evaluation (also called process evaluation) is used to “progress monitor” a project to ascertain whether the program is being implemented as it was planned. Formative evaluation is part of the planning process and agreed to before the program is launched. Its purpose is to investigate ongoing implementation. It can examine if budget and interim progress objectives are being met. Formative evaluation occurs several times during the implementation of a program.

Outcome evaluation is designed to appraise the overall impact of a program. Was the program successful in achieving the goals that were originally intended (e.g., improving mathematics outcomes for 6th grade students)? It is based on valid and reliable information to support the program evaluation statement. This outcome data can be obtained from multiple sources and is gathered by a diverse range of methods. The data can be evaluated separately and/or together.

Quantitative analyses can be enriched with qualitative data like interviews, surveys, and observations of teachers, leadership and other staff gathered during the project. It can also

include some measure of the actual costs incurred by the program and my consider return on investment information.

Characteristics of a High Quality Formative Evaluation Include:

- Identification of both short and long-term evaluation goals
- Prior agreement to collect implementation, budget and other interim indicators
- Informed judgments about the program's progress based on the data collected
- Findings and recommendations (budget on track, fidelity of implementation measures, etc.)

Characteristics of a High Quality Outcome Evaluation Include:

- Identification of short-term and long-term project goals complete with an explanation of whether the goals were achieved or not
- Review of the program's effect on desired outcomes with an explanation offered for the impact or lack of impact of each
- Discussion of causal relationships between the program and outcomes if appropriate (Consideration is also given to the possibility that something other than the project alone may have been related to the outcome.)
- Statistical tests or data appropriate to the design
- Report of measures of attrition
- Meeting fidelity of implementation in terms of the following:
 - Adherence – Program components delivered as planned
 - Exposure –Program content delivered and received by participants as planned
 - Quality of the delivery – High quality processes and content maintained
 - Engagement– Participants actively engaged in the program and responded to in appropriate ways
 - Distinguished Features– Unique elements of the project that distinguish it from other similar programs

RESEARCH STUDIES

Definitions:

A research study is a systematic empirical investigation of a specific topic or issue. The purpose of a research study is to develop or contribute to generalizable knowledge on a specific topic. Research studies pose specific questions that are clear, focused, complex and yet concise. Research studies provide a systematic plan for performing data analyses to answer the specific research questions. The research questions should formulate the issues in such a way that the purpose of the study clear. It should also lead to results that are understandable and useful.

Hypotheses about the research questions are developed by the researcher and the data are examined through the use of inferential statistics to determine if the hypothesis was supported or not. The final portion of the study explains how the work provides an answer to the questions and adds to our knowledge about the particular topic. The two most used types of analyses are descriptive and inferential.

Descriptive statistical analysis focuses on the measurement of a complete population's characteristics. The researcher examines characteristics of an entire population (e.g., all the graduating high school seniors of 2009), assesses each member of that population on key variables (gender, ethnicity, poverty status, etc.), and computes summary values (such as a mean or standard deviation) based on those values. The research questions for a descriptive study are based on developing an understanding of the population as a whole. For example, did more males need remediation in math or reading?

In contrast to descriptive statistics, **inferential statistical analysis** involves using information from a sample of a population to make inferences, or estimates, about the population. The research questions are based on generalizing from the sample to the larger population in some key way. For example, did a random sample of graduating high schools seniors who took the integrated mathematics course in twelfth grade need math remediation as often as those in the graduating class who did not?

Characteristics of a High Quality Research Study Include:

- A well-defined research topic and a clear hypothesis
- Focused research questions responsive to a literature review
- An absence of research bias
- High quality data fit for their intended use and reliable, valid, relevant, and accurate
- Analytical methods appropriate to the data and the questions (descriptive or inferential)
- Findings of the study written in a way which brings clarity to important issues
- Tables and graphics which are clear, accurate and understandable with appropriate labeling of data values, cut points and thresholds
- Include both statistical significance results and effect sizes when possible
- The conclusions and recommendations both logical and consistent with the findings.

LITERATURE REVIEWS

Definitions:

The purpose of a literature review is to acquire an understanding of a topic through learning what research has already been completed on the topic, what methods were previously used to examine the topic and a profile of the findings of the previous research.

Characteristics of High Quality Literature Reviews:

- Use of the most credible sources such as professional journals
 - A synthesis of relevant papers including those that may be contrary to one's hypotheses
 - Intuitively organized overview of the literature and a conclusion that summarizes and synthesizes key ideas from the review
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POLICY AND PRACTICES REPORT

Definitions:

- A policy and practices report is a summative briefing on local, state and national strategic objectives, implementation procedures and results.

Characteristics of High Quality Policy & Practice Reports:

- Policy issues are clearly defined
 - Existing evidence is compiled and explained
 - Alternative options are identified and/or explained
 - Evaluation criteria are explored
 - Potential outcomes are reviewed
 - Policy recommendations may be made
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EXPLORATORY DATA ANALYSES

Definitions:

Exploratory data analysis is an approach to the analysis of typically large data sets using software to identify undiscovered patterns and hidden relationships. It is an inductive approach to data analysis that allows flexible ways to look at data without preconceptions. It employs a variety of mostly graphical techniques to explore and visualize the data.

Characteristics of High Quality Exploratory Data Analysis:

- Invites additional intuitive insight or more questions
 - May reveal important and unexpected relationships among and between variables
 - Include both statistical significance results and effect sizes when possible
 - Avoids reliance on previous assumptions in order to maximize chances for insight which may uncover important relationships
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