Research Design

Qualitative & Quantitative Approaches

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A Framework for the Study

The design of a study begins with the selection of a topic and a paradigm. Paradigms in the human and social sciences help us understand phenomena: They advance assumptions about the social world, how science should be conducted, and what constitutes legitimate problems, solutions, and criteria of "proof" (Firestone, 1978; Gioia & Pitre, 1990; Kuhn, 1970). As such, paradigms encompass both theories and methods. Although they evolve, differ by discipline fields, and often are contested (Phillips, 1987), two are discussed widely in the literature: the qualitative and the quantitative paradigms (Philips, 1987; Reichardt & Cook, 1979; Webb, Beals, & White, 1986). In this book a **qualitative study** is designed to be consistent with the assumptions of a qualitative paradigm. This study is defined as an inquiry process of understanding a social or human problem,

based on building a complex, holistic picture, formed with words, reporting detailed views of informants, and conducted in a natural setting. Alternatively a **quantitative study,** consistent with the quantitative paradigm, is an inquiry into a social or human problem, based on testing a theory composed of variables, measured with numbers, and analyzed with statistical procedures, in order to determine whether the predictive generalizations of the theory hold true.

In this chapter I address the selection of a paradigm and a format for pursuing the methodology—the process of research—within the paradigm. First, however, one needs to begin by selecting a focus for the study.

A FOCUS FOR THE STUDY

The *focus* for a study is the central concept being examined in a scholarly study. It may emerge through an extensive literature review, be suggested by colleagues, researchers, or advisors, or be developed through practical experiences.

▼ *Focus the topic by describing it succinctly, drafting a working title, and considering whether it is researchable.* In a single sentence try to describe the focus concisely. Complete the following sentence: "My study is about . . ." Possible responses: "My study is about at-risk children in the junior high," "My study is about helping college faculty become better researchers." At this stage in the design, frame the answer to the question so that another scholar might grasp easily the meaning of the project. A common shortcoming of beginning researchers is that they frame their study in complex and erudite language. This perspective may result from reading published articles that have undergone numerous revisions before being set in print. Good, sound research projects begin with straightforward, uncomplicated thoughts, easily read and understood.

Drafting a working title for the study will help focus the direction of research. Although some would suggest that the title be saved for last, I recommend a working draft at this time to position the central concept before the writer at an early stage. Undoubtedly this working title will be modified as one proceeds with a project.

Wilkinson (1991) provided useful advice for creating a title: Be brief and avoid wasting words. Eliminate unnecessary words such as "An Approach to . . ." and "A Study of . . ." Use a single title or a double title. An example of a double title: "An Ethnography: Understanding a Child's Perception of War." In addition to Wilkinson's thoughts, consider a title no longer than 12 words, eliminate most articles and prepositions, and make sure it includes the focus or topic of the study.

Next consider whether this topic is researchable. One needs criteria for making this decision. Below are questions often asked by individuals as they plan a study:

Is the topic researchable, given time, resources, and availability of data?

Is there a personal interest in the topic in order to sustain attention?

Will the results from the study be of interest to others (e.g., in the state, region, nation)?

Is the topic likely to be publishable in a scholarly journal? (or attractive to a doctoral committee?)

Does the study (a) fill a void, (b) replicate, (c) extend, or (d) develop new ideas in the scholarly literature?

Will the project contribute to career goals?

Before proceeding with a study, one needs to weigh these factors and to ask others for their reactions to a topic. Seek reactions from colleagues, noted authorities in the field, academic advisors, and faculty committee members and colleagues.

A PARADIGM FOR THE STUDY

The Two Paradigms

Once one is comfortable proceeding with a specific focus, the next decision involves selecting an overall paradigm for the study. I present two choices—the qualitative and the quantitative—that have roots in 20th-century philosophical thinking.

The **quantitative** is termed the traditional, the positivist, the experimental, or the empiricist paradigm. The quantitative thinking comes from an empiricist tradition established by such authorities as Comte, Mill, Durkheim, Newton, and Locke (J. Smith, 1983). The **qualitative** paradigm is termed the constructivist approach or naturalistic (Lincoln & Guba, 1985), the interpretative approach (J. Smith, 1983), or the postpositivist or postmodern perspective (Quantz, 1992). It began as a countermovement to the positivist tradition in the late 19th century through such writers as Dilthey, Weber, and Kant (J. Smith, 1983).

Assumptions of the Paradigms

To understand the assumptions of each paradigm, writers have contrasted them on several dimensions (Firestone, 1987; Guba & Lincoln, 1988; McCracken, 1988). Although these contrasts are a heuristic device (seldom do actual studies exemplify all of the ideal characteristics of either paradigm), they bring into stark contrast the nature of alternative strategies (Patton, 1988). Table 1.1 displays assumptions of quantitative and qualitative paradigms based on ontological, epistemological, axiological, rhetorical, and methodological approaches. It is important to understand these assumptions because they will provide direction for designing all phases of a research study (in the chapters to follow).

On the **ontological** issue of what is real, the **quantitative** researcher views reality as "objective," "out there" independent of the researcher. Something can be measured objectively by using a questionnaire or an instrument. For the **qualitative** researcher, the only reality is that constructed by the individuals involved in the research situation. Thus multiple realities exist in any given situation: the

Table 1.1 Quantitative and Qualitative Paradigm Assumptions

Assumption	*Question*	*Quantitative*	*Qualitative*
Ontological Assumption	What is the nature of reality?	Reality is objective and singular, apart from the researcher.	Reality is subjective and multiple as seen by participants in a study.
Epistemological Assumption	What is the relationship of the researcher to that researched?	Researcher is independent from that being researched.	Researcher interacts with that being researched.
Axiological Assumption	What is the role of values?	Value-free and unbiased	Value-laden and biased
Rhetorical Assumption	What is the language of research?	Formal Based on set definitions Impersonal voice Use of accepted quantitative words	Informal Evolving decisions Personal voice Accepted qualitative words
Methodological Assumption	What is the process of research?	Deductive process Cause and effect Static design—categories isolated before study Context-free Generalizations leading to prediction, explanation, and understanding Accurate and reliable through validity and reliability	Inductive process Mutual simultaneous shaping of factors Emerging design—categories identified during research process Context-bound Patterns, theories developed for understanding Accurate and reliable through verification

SOURCE: Based on Firestone (1987); Guba & Lincoln (1988); and McCracken (1988).

researcher, those individuals being investigated, and the reader or audience interpreting a study. The qualitative researcher needs to report faithfully these realities and to rely on voices and interpretations of informants.

On the **epistemological** question, the relationship of the researcher to that being researched, the two paradigms also differ. The **quantitative** approach holds that the researcher should remain distant and independent of that being researched. Thus in surveys and experiments, researchers attempt to control for bias, select a systematic sample, and be "objective" in assessing a situation. The **qualitative** stance is different: Researchers interact with those they study, whether this interaction assumes the form of living with or observing informants over a prolonged period of time, or actual collaboration. In short, the researcher tries to minimize the distance between him- or herself and those being researched. This response has implications, too, for the **axiological** issue of the role of values in a study. The researcher's values are kept out of the study in a **quantitative** project. This feat is accomplished through entirely omitting statements about values from a written report, using impersonal language, and reporting the "facts"—arguing closely from the evidence gathered in the study. The major difference between this approach and that of the **qualitative** researcher is that the qualitative investigator admits the value-laden nature of the study and actively reports his or her values and biases, as well as the value nature of information gathered from the field. The language of the study may be first person and personal.

Another distinction is the **rhetoric,** or language of the research. When a **quantitative** researcher writes a study, the language should be not only impersonal and formal but also based on accepted words such as *relationship, comparison,* and *within-group.* Concepts and variables are well defined from accepted definitions. This orientation marks a quantitative study. Different words mark **qualitative** studies; authors of qualitative texts during the 1980s (e.g., Lincoln & Guba, 1985) constructed a language distinct from the traditional research language in order to emphasize the qualitative paradigm. Such words as *understanding, discover,* and *meaning* formed the glossary of emerging qualitative terms. Moreover, the

language of qualitative studies became personal, informal, and based on definitions that evolved during a study.

From these distinctions about reality, the relationship between the researcher and that researched, the role of values, and the rhetoric of the study has emerged a **methodology**—the entire process of a study—that differs too. One approaches a **quantitative** methodology by using a deductive form of logic wherein theories and hypotheses are tested in a cause-and-effect order. Concepts, variables, and hypotheses are chosen before the study begins and remain fixed throughout the study (in a static design). One does not venture beyond these predetermined hypotheses (the research is context free). The intent of the study is to develop generalizations that contribute to the theory and that enable one to better predict, explain, and understand some phenomenon. These generalizations are enhanced if the information and instruments used are valid and reliable. Alternatively, in a **qualitative** methodology inductive logic prevails. Categories emerge from informants, rather than are identified ***a priori*** by the researcher. This emergence provides rich "context-bound" information leading to patterns or theories that help explain a phenomenon. The question about the accuracy of the information may not surface in a study, or, if it does, the researcher talks about steps for verifying the information with informants or "triangulating" among different sources of information, to mention a few techniques available.

A Single Paradigm

▼ *Identify a* **single** *research paradigm for the overall design of the study.* Although in Chapter 10 I address combined paradigm designs, compelling reasons exist for a single paradigm at this time. Pragmatically, to use both paradigms adequately and accurately consumes more pages than journal editors are willing to allow and extends dissertation studies beyond normal limits of size and scope. By examining studies in journals that employ combined paradigms, one can see that they tend to be funded projects with multiple investigators collecting data over an extended period of time. Using both paradigms in a single study can be expensive, time-consuming, and lengthy

(Locke, Spirduso, & Silverman, 1987). Also researchers (and faculty) seldom are trained in the skills necessary to conduct studies from more than one paradigm; individuals learn one paradigm, and this perspective becomes the dominant view in their research.

Criteria for Selection

How, then, does one choose between the qualitative and the quantitative paradigms? **Table 1.2** presents five criteria that illustrate factors to consider.

Researchers bring to a study a **worldview,** an outlook, that favors the qualitative or quantitative ontological, epistemological, axiological, rhetorical, and methodological assumptions. For example, some individuals see reality as subjective and want a close interaction with informants. Others may be more comfortable with an objective stance using survey or experimental instruments. Undoubtedly this worldview may be affected by a second factor—**training or experiences.** An individual trained in technical, scientific writing, statistics, or computer statistical programs and familiar with quantitative journals in the library would choose the quantitative paradigm. The qualitative approach incorporates much more of a literary form of writing than the quantitative approach. Library experiences with qualitative journals and texts are important to provide illustrations of good writing. With the advent of qualitative computer software programs, experience in using these, too, is an asset for those choosing the qualitative approach.

Another factor is **psychological attributes.** Because quantitative studies are the traditional mode of research, carefully worked-out procedures and rules exist for the research. In addition, collecting information and analyzing data from surveys or from instruments in an experimental design involve a shorter period of time than that required of qualitative designs. Hence a researcher who engages in a quantitative study seeks out this paradigm because it offers a low-risk, fixed method of research without ambiguities and possible frustrations. This researcher also would have a shorter time for the study. Alternatively the qualitative design is one in which the "rules" and procedures are not fixed, but rather are open and

Table 1.2 Reasons for Selecting a Paradigm

Criteria	*Quantitative Paradigm*	*Qualitative Paradigm*
Researcher's Worldview	A researcher's comfort with the ontological, epistemological, axiological, rhetorical, and methodological assumptions of the quantitative paradigm	A researcher's comfort with the ontological, epistemological, axiological, rhetorical, and methodological assumptions of the qualitative paradigm
Training and Experience of the Researcher	Technical writing skills; computer statistical skills; library skills	Literary writing skills; computer text-analysis skills; library skills
Researcher's Psychological Attributes	Comfort with rules and guidelines for conducting research; low tolerance for ambiguity; time for a study of short duration	Comfort with lack of specific rules and procedures for conducting research; high tolerance for ambiguity; time for lengthy study
Nature of the Problem	Previously studied by other researchers so that body of literature exists; known variables; existing theories	Exploratory research; variables unknown; context important; may lack theory base for study
Audience for the Study (e.g., journal editors and readers, graduate committees)	Individuals accustomed to/supportive of quantitative studies	Individuals accustomed to/supportive of qualitative studies

emerging. This design calls for an individual who is willing to take the risks inherent in an ambiguous procedure. This person, too, needs to have time for a lengthy study, one requiring at least a year for data collection alone.

Whether certain "problems" are better suited for qualitative or quantitative studies is open to debate. However, the **nature of the problem** is an important factor, albeit only one on the list. For quantitative studies the problem evolves from the literature, so a substantial body of literature exists on which the researcher can build. Variables are known, and theories may exist that need to be tested and verified. For qualitative studies the research problem needs to be explored because little information exists on the topic. The variables are largely unknown, and the researcher wants to focus on the context that may shape the understanding of the phenomenon being studied. In many qualitative studies a theory base does not guide the study because those available are inadequate, incomplete, or simply missing.

A final factor is the **audience** for the research. A choice of paradigm must be sensitive to the audience, whether this audience consists of journal editors, journal readers, graduate committees, or colleagues in the field. The paradigm of choice must be one the audience understands or at least supports as a viable, legitimate methodology.

METHODS ASSOCIATED WITH THE PARADIGMS

At this stage in the design, it is useful to consider the method for data collection and analysis to be associated with the paradigm of choice.

▼ *Identify a tentative guiding method for use within the qualitative or quantitative paradigm.* Consider **quantitative methods** as consisting of two types:

Experiments include true experiments with the random assignment of subjects to treatment conditions and quasi experiments that use nonrandomized designs (Keppel, 1991). Included within quasi experiments are single-subject designs.

Surveys include cross-sectional and longitudinal studies using questionnaires or structured interviews for data collection with the intent of generalizing from a sample to a population (Babbie, 1990).

In **qualitative** methods (or approaches) the human and social sciences offer several traditions. These traditions may be method types for data collection, analysis, and reporting writing, or overall designs that include all phases in the research process. Jacobs (1987), for example, discussed designs in human ethology, ecological psychology, holistic ethnography, cognitive anthropology, ethnography of communication, and symbolic interactionism. M. Smith (1987) categorized qualitative research into the interpretive approach, artistic approaches, systematic approaches, and theory-driven approaches. Tesch (1990) identified 20 types and categorized them into those addressing the characteristics of language, the discovery of regularities, the comprehension of meaning, and reflection. Lancy (1993) noted anthropological perspectives, sociological perspectives, biological perspectives, the case study, personal accounts, cognitive studies, and historical inquiry. McCracken (1988) advanced a historical sketch of the evolution of qualitative approaches from sociology, psychology, anthropology, evaluation research and administrative sciences, and consumer research.

To limit the types in this book, I cite examples from four designs frequently found in human and social science research:

Ethnographies, in which the researcher studies an intact cultural group in a natural setting during a prolonged period of time by collecting, primarily, observational data (Wallen & Fraenkel, 1991). The research process is flexible and typically evolves contextually in response to the lived realities encountered in the field setting (Grant & Fine, 1992; Spradley, 1979). Examples in this book are drawn also from **critical ethnography,** a style of discourse and analysis embedded within conventional ethnography. In this approach the researcher chooses between conceptual alternatives and

value-laden judgments to challenge research, policy, and other forms of human activity (Thomas, 1993). Critical ethnographers attempt to aid emancipatory goals, negate repressive influences, raise consciousness, and invoke a call to action that potentially will lead to social change.

Grounded theory, in which the researcher attempts to derive a theory by using multiple stages of data collection and the refinement and interrelationship of categories of information (Strauss & Corbin, 1990). Two primary characteristics of this design are the constant comparison of data with emerging categories, and theoretical sampling of different groups to maximize the similarities and the differences of information.

Case studies, in which the researcher explores a single entity or phenomenon ("the case") bounded by time and activity (a program, event, process, institution, or social group) and collects detailed information by using a variety of data collection procedures during a sustained period of time (Merriam, 1988; Yin, 1989).

Phenomenological studies, in which human experiences are examined through the detailed descriptions of the people being studied. Understanding the "lived experiences" marks phenomenology as a philosophy based on the works of Husserl, Heidegger, Schuler, Sartre, and Merlau-Ponty (Nieswiadomy, 1993), as much as it is a method of research. As a method the procedure involves studying a small number of subjects through extensive and prolonged engagement to develop patterns and relationships of meaning (Dukes, 1984; Oiler, 1986). Through this process the researcher "brackets" his or her own experiences in order to understand those of the informants (Nieswiadomy, 1993).

A FORMAT FOR COMPOSING SECTIONS

Assuming that one has a paradigm for the guiding methodology in the study and a method type within this paradigm, the next step is to conceptualize a format for the entire study.

▼ *Select a format for the overall design of the study.* The format for a **quantitative** study conforms to standards easily identified in journal articles and research studies. The form generally follows the model of an introduction, a literature review, methods, results, and discussion. In planning a **quantitative** study and designing a dissertation proposal, consider the following three-part format to sketch the overall plan:

Example 1. **Quantitative *Format***

Introduction
- Context (Statement of the Problem)
- Purpose of the Study
- Research Questions or Objectives or Hypotheses
- Theoretical Perspective
- Definition of Terms
- Delimitations and Limitations of the Study
- Significance of the Study

Review of the Literature

Methods
- Research Design
- Sample, Population, or Subjects
- Instrumentation and Materials
- Variables in the Study
- Data Analysis

Appendices: Instruments

The plan shown in Example 1 is a standard format for a social science study, although the order of the sections, especially in the introduction, may vary from study to study (see Miller, 1991; Rudestam & Newton, 1992). It presents a useful model for designing the sections of a plan for a dissertation or sketching the topics to be addressed in a scholarly study.

The format is much less standardized in **qualitative** designs than quantitative designs. A fundamental characteristic, however, should be that the design is consistent with the qualitative paradigm

assumptions. Moreover, with qualitative research relatively new on the landscape of human and social science research, the design ideally should convey a strong rationale for the choice of a qualitative design. In light of these points, I propose two alternative models: Example 2 is one I have used, and Example 3 is recommended by Marshall and Rossman (1989):

Example 2. **Qualitative *Format***

Introduction
- Statement of the Problem
- Purpose of the Study
- The Grand Tour Question and Subquestions
- Definitions
- Delimitations and Limitations
- Significance of the Study

Procedure
- Assumptions and Rationale for a Qualitative Design
- The Type of Design Used
- The Role of the Researcher
- Data Collection Procedures
- Data Analysis Procedures
- Methods for Verification
- Outcome of the Study and Its Relation to Theory and Literature

Appendices

Example 3. **Qualitative *Format (Marshall & Rossman, 1989)***

Introduction and General Questions or Topic

Significance of the Research

Site and Sample Selections

Researcher's Role in Management, Including Entry, Reciprocity, and Ethics

Research Strategies

Data Collection Techniques

Managing and Recording Data

Data Analysis Strategies

Management Plan, Timeline, Feasibility

Appendices

Although these two examples are similar, my model emphasizes more introductory topics, such as definitions, delimitations, and limitations, as well as information about the assumptions and specific design used in the study. Regardless of the differences, both models represent a reasonable format for a qualitative design.

SUMMARY

In this chapter I focused on selecting a paradigm for a scholarly study. I addressed focusing a topic by using the techniques of scripting a single sentence that completes the thought, "My study is about . . . ," drafting a working title, and addressing whether the focus is researchable. I recommended choosing a **single** paradigm for the study, based on the distinctive characteristics of the qualitative and quantitative paradigm assumptions. These differences are the nature of reality (the ontological assumption), the relationship of the researcher to that being researched (the epistemological assumption), the role of values (the axiological assumption), the use of language and words (the rhetorical assumption), and the overall process of the research study (the methodological assumptions). The rationale for a **single** paradigm is based on such issues as time, skills, and the overall size of the project. I suggested that the rationale for the **paradigm of choice** be based on worldview or assumptions of each paradigm, training and experience, psychological attributes, the nature of the problem, and the audience for the study. Within a paradigm, one needs to specify the method used. Quantitative method types discussed in this book are surveys and experiments; qualitative method types (or designs) are ethnographies, grounded theory studies, case studies, and phenomenology studies. From the paradigm and the method type, one considers the methodology,

the format for the entire study. Examples were provided of formats for designing quantitative and qualitative studies.

WRITING EXERCISES

1. Draft a working title for your study. Use the suggestions advanced in this chapter for the design of the title. If preparing a dissertation or a thesis, prepare the title page for the study.
2. Develop a table of contents for the study, based on one of the formats presented in this chapter.

▼ *ADDITIONAL READINGS*

Firestone, W. A. (1987). Meaning in method: The rhetoric of quantitative and qualitative research. **Educational Researcher,** 16(7), 16-21.

William Firestone examines both a quantitative and a qualitative study of the same research question. He provides a clear discussion of the two methodologies and of their underlying assumptions. Further analysis shows the different uses of rhetoric in the two paradigms. Differences in the use of language and of presentation are linked to fundamental differences in the paradigms. An important conclusion is that although different in assumptions and methods, quantitative and qualitative research can be seen usefully as complementary, rather than rival, designs.

Guba, E. G., & Lincoln, Y. (1988). Do inquiry paradigms imply inquiry methodologies? In D. M. Fetterman (Ed.), **Qualitative approaches to evaluation in education** (pp. 89-115). New York: Praeger.

Egon Guba and Yvonna Lincoln provide axioms that distinguish between the conventional (positivistic) and the alternative (naturalistic) paradigms in the social sciences. These differences are the nature of reality, the relationship of the knower to the known, the outcomes of inquiry, the dynamics of action, and the role of values in inquiry. In addition they provide excellent visual renderings of the methodology of the conventional and naturalistic inquiry. The authors see these methodologies as "non-miscible in any proportion" (p. 111). And they advocate that methodologies are rooted in paradigms, and that researchers should be observant of the assumptions that undergird their research.

Howe, K., & Eisenhart, M. (1990). Standards for qualitative (and quantitative) research: A prolegomenon. **Educational Researcher,** 19(4), 2-9.

Kenneth Howe and Margaret Eisenhart emphasize that, as positivism is no longer a viable epistemological doctrine, the debate between

qualitative and quantitative paradigms needs to focus on particular aspects of various research methodologies, rather than on abstract epistemology. They stress the importance of ensuring that the research questions drive the methodology, and not vice versa. Five general standards for educational research are (a) the fit between research questions and techniques of data collection and analysis, (b) the effective application of chosen techniques of data collection and analysis, (c) understanding of background assumptions, (d) overall warrant, and (e) value constraints; these underline the authors' perception of the importance and rigor of appropriate techniques, rather than methodological purity.

Marshall, C., & Rossman, G. B. (1989). **Designing qualitative research.** Newbury Park, CA: Sage.

Catherine Marshall and Gretchen Rossman outline the sections of a qualitative proposal: introduction, significance of the research, review of related literature, statement of the problem, research questions, focus of the study, and research design. This six-step plan for a design provides useful advice. In addition the authors offer a clear guide to the steps involved in justifying the use of qualitative research methods. They stress the importance of demonstrating how research design emerges from a consideration of the methodological literature. The section on proposal format offers useful advice on how qualitative proposals might address concerns of positivist researchers.

Rudestam, K. E., & Newton, R. R. (1992). *Surviving your dissertation.* Newbury Park, CA: Sage.

Kjell Rudestam and Rae Newton provide readers with advice on the entire dissertation process, such steps as selecting a topic, conducting a literature review, presenting tables and figures, working with faculty committees, and addressing writing issues. They also advance a section on methods of inquiry wherein they identify the characteristics of qualitative and quantitative approaches to educational research. They provide many useful tables, such as a table on differences among statistical tests, and tables on how to present analysis from SPSS statistical procedures. This book is an excellent guide for doctoral dissertation and master's thesis students.

Salomon, G. (1991). Transcending the qualitative-quantitative debate: The analytic and systemic approaches to educational research. **Educational Researcher,** 20(6), 10-18.

Gavriel Salomon argues that the debate emphasizing the quantitative-qualitative dichotomy obscures the inherently complementary nature of the two approaches. He proposes alternative sets of assumptions—the analytic and the systemic—as a more useful way of thinking about complementary differences in research paradigms and methods. The analytic approach describes the assumptions and methods appropriate to precision and measurement; the systemic approach stresses authenticity and flux. No single paradigm or set of assumptions is necessarily superior to the other. It is important to select what is most clearly a function of the particular aspect or unit of the world one wishes to study. Complementing research paradigms and methods means more than coexistence; it underlines how one approach can inform and guide the other.

Tuckman, B. W. (1990). A proposal for improving the quality of published educational research. **Educational Researcher,** 19(9), 22-25.

Bruce Tuckman argues that far too much published research in education has serious deficiencies, ranging from substance to method. Existing strategies of manuscript evaluation are clearly inadequate. Tuckman proposes the adoption of a research evaluation framework (REF) in order to better assess manuscripts and offer technical guidance to authors. The proposed REF would have 30 criteria across nine topical areas: problem, literature review, hypotheses, design methodology, manipulations and measures, statistics, results, discussion, and write-up. Each criterion would be rated on a 5-point scale. Design methodology would have the highest weight (six criteria), and hypotheses the lowest (two criteria). The overall quality of a piece of research would be measured by its total score across all nine areas. Worksheets would provide evaluators with subsidiary questions, and necessary evaluator training materials would be provided. The REF could be adapted to allow the evaluation of qualitative research. A call is made for the American Educational Research Association to sponsor the REF proposal.