BOX 1.1. Galileo's Situation

Galileo's rejection of Aristotle's law of gravity was not based upon observations "across a wide range," and the observations were not "carried out in some numbers." The rejection consisted primarily of a conceptual experiment and later on of a practical one. These experiments, with the benefit of hindsight, are self-evident. Nevertheless, Aristotle's view of gravity dominated scientific inquiry for nearly two thousand years before it was falsified.

In his experimental thinking, Galileo reasoned as follows: If two objects with the same weight are released from the same height at the same time, they will hit the ground simultaneously, having fallen at the same speed. If two objects are then stuck together into one, this object will have double the weight and will, according to the Aristotelian view, therefore fall faster than the two individual objects. This conclusion operated in a counterintuitive way for Galileo. The only way to avoid the contradiction was to eliminate weight as a determinant factor for acceleration in free fall. And that was what Galileo did.

Historians of science continue to discuss whether Galileo actually conducted the famous experiment from the leaning tower of Pisa, or whether it is simply a myth. In any event, Galileo's experimentalism did not involve a large random sample of trials of objects falling from a wide range of randomly selected heights under varying wind conditions, etc., as would be demanded by the thinking of the early Campbell and Giddens. Rather, it was a matter of a single experiment, that is, a case study, if any experiment was conducted at all.

Galileo's view continued to be subjected to doubt, however, and the Aristotelian view was not finally rejected until half a century later, with the invention of the air pump. The air pump made it possible to conduct the ultimate experiment, known by every pupil, whereby a coin or a piece of lead inside a vacuum tube falls with the same speed as a feather. After this experiment, Aristotle's view could be maintained no longer. What is especially worth noting . . . however, is that the matter was settled by an individual case due to the clever choice of the extremes of metal and feather. One might call it a *critical case:* for if Galileo's thesis held for these materials, it could be expected to be valid for all or a large range of materials. Random and large samples were at no time part of this picture. Most creative scientists simply do not work [that] way with this type of problem.

Source: Flyvbjerg (2001, p. 74).

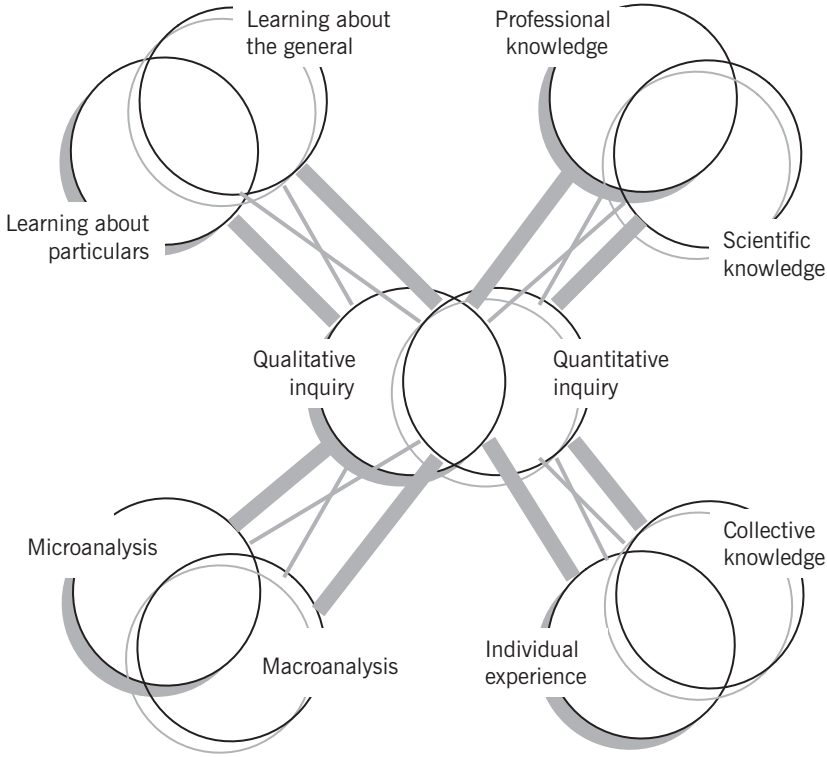

FIGURE 1.2. A whirligig of strong and weaker epistemological ties of qualitative inquiry.

BOX 3.4. A Study of Marital Counseling

Seals studied the conceptions of gender issues in marital therapy as illuminated in an actual case, that of Pete and Lisa, who had come to two of his colleagues for help with marital problems. He used one of their videotaped sessions with them as an exhibit to begin his dissertation research.

Interested in four theoretical orientations (psychoanalytic, family systems, behavioral, and existential-experiential), Seals hoped to make a theoretical contribution to counseling theory. Following his reading of Glaser and Strauss (1967) and impressed with their constant comparative method, he chose to follow a deliberately incremental approach to design and data gathering, particularly in introducing existing theory progressively through the study. Some people call that approach "progressive focusing" (Parlett and Hamilton, 1977).

He invited the participation of 16 marital therapists, selected so as to have four of each theoretical orientation. He had each therapist watch the tape as if they might be called in to help the counselor, then to prepare an assessment of problems and suggestions for assistance. He eventually interviewed each therapist, giving little focus to gender issues. The transcripts ran to 600 pages.

To work incrementally, he worked first only with the eight behavioral and existential-experiential therapists, interpreting their responses. Seals also employed a colleague to evaluate his ongoing interpretation of transcripts, looking particularly for omissions, additions, and distortions. Her comments were included in the data set as it moved through subsequent stages. Seals produced two synopses of the psychoanalytic and existential-experiential data, one an interpretive story of lifelong emergence of gender issues, tracing Pete and Lisa from the present on back to courtship and families of origin. The other was a taxonomy of therapeutic allusions emerging from the observations.

The eight therapists provided a comprehensive overview of gender issues in marital counseling, concluding that Pete and Lisa were experiencing predictable conflicts between men and women with normal gender roles in intimate relationships.

Seals was ready for further complication. He went on to the third group of four, the psychoanalytic, repeating the procedure but changing questions to address possible gaps in previous interpretations. Subsequently, the marital conflict appeared more to be something of a search for protection, searched separately by Pete and Lisa, after having faced inadequate gender identification in family-of-origin problems. The fourth sample did not add anything new. Although his two grand interpretations were at odds, Seals included both views in his conclusions.

Source: Based on Seals (1985).

Examples of TOPICS OR AREAS OF INTEREST (very broad)	• Upgrading the preparation of professionals • The social cost of meritocracy • The ethics of medical research • Advocacy for peace • The care and feeding of newborn infants
Examples of BASIC RESEARCH QUESTIONS (broad)	• What is the public support for making parks and playgrounds more child-oriented? • Why is drug rehabilitation not more effective? • Are the concepts of "mainstreaming" and "pluralism" fundamentally opposed? • How are major policy decisions made in collegiate athletics departments?
Examples of Research Questions for ORGANIZING A DISSERTATION	• How do teachers assess student art making in exemplary sites? • Does the heavy emphasis on marketing to youth in shopping malls bring in more shoppers? • Do organizational conditions facilitate or even allow a department head to be a moral leader? • How are war veterans contributing to the protection of rights of native Americans?
Examples of Research Questions for ORGANIZING A SMALL STUDY	• Is the fact that breeding standards are now set nationally affecting competition at dog shows? • Are attitudes toward obesity changing among young adults in this community? • Is increased emphasis on student test scores in this school an obstacle to teachers helping students improve self-concepts? • For professional staff members of these hospitals, what is the relationship between home residence and absenteeism?
INFORMATION QUESTIONS, too narrow usually to be a research question, but may be useful	• How effective at budgeting is the director? • Do drivers here understand how traffic volume affects global warming? • Of the total amount of class time here in these classes, what proportion is actually instruction time? • Given these rating scales, is there correlation between nursing quality and nurses' empathy toward patients? • In what ways have caseloads changed in the last 2 years?
IMMEDIATE PROBLEMS AND CHOICES, perhaps important, but not usually considered a research question	• What computer graphics software should be purchased? • How will the manager's work get done if that position is eliminated? • Should third-grade aptitude testing be ended here? • Is conflict of interest an issue regarding the appointment of the director's cousin to head community relations? • Does this textbook cover too many different things?

FIGURE 4.2. Six levels of research questions.

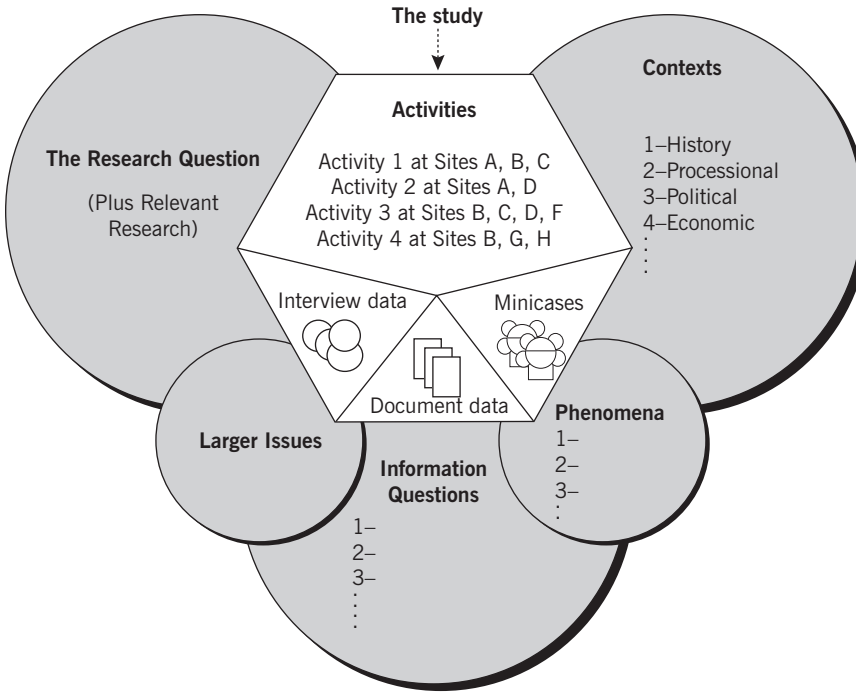

FIGURE 4.4. A graphic form for designing a qualitative study.

In Marie's study, there seemed time only for one minicase. The main artifacts and documents for Marie to review were—at least at first—the training materials and the statement of standards for school librarian proficiency.

For Marie's research, four contexts seemed worthy of examining: the history of this library, the national school library association, contemporary community support for school libraries, and research on professional development. And among all the information needed, Marie emphasized the backgrounds and the attitudes of the participants, the agenda for the workshop, and the hardware and software available.

As you know, one needs to have a research question and places to study it and some sense of how the needed information can be gathered. One will find stories, episodes, dialogues—the good ones I call "patches"—that will fit into one's boxes ready for interpreting the research question. (It may be necessary to get institutional approval for the protection of human subjects—Section 12.4—even before one knows

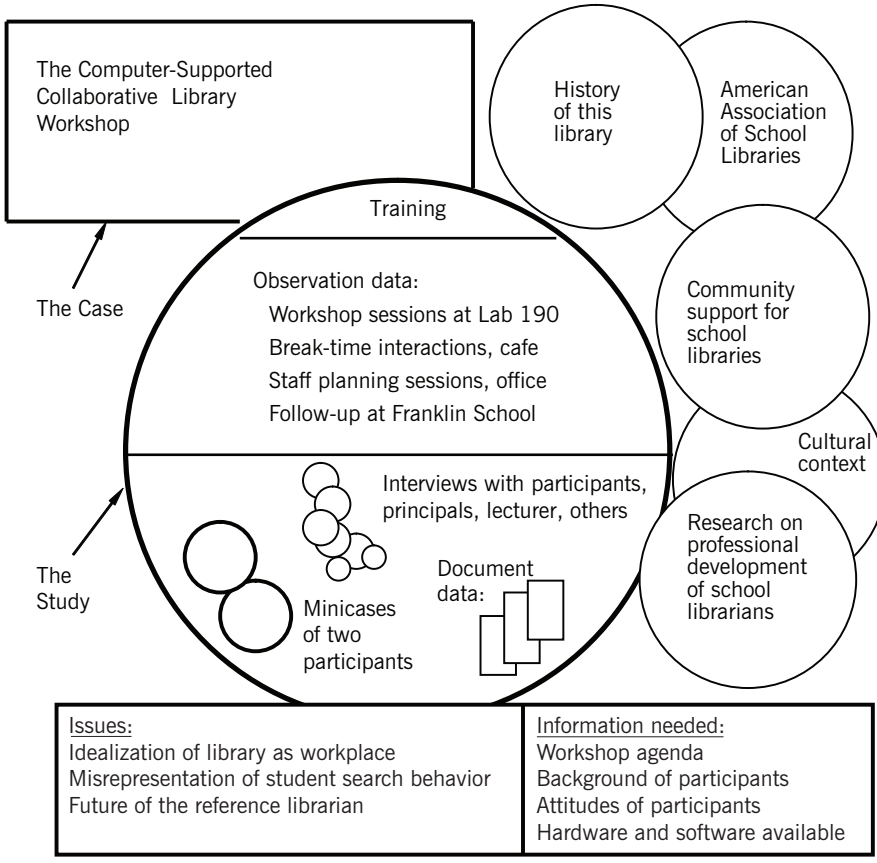

FIGURE 4.5. Circle design of Marie's workshop study.

the situation well enough to create such a graphic plan.) The boxes-and-circle plan can be useful in conceptualizing the study during the remainder of the study, with modifications expected as the work progresses.

There is a risk that the plan will become a mechanism that interferes with the open and interpretive stance taken by the qualitative researcher. Marie's question is about how the workshop operates, both practically and conceptually. She needs to be thinking about what is happening here, using her intuitive curiosities, as well as gathering observations to analyze. And such curiosity needs to extend to what can be read on similar topics in professional and research documents and to thoughts of how the library and teaching professions can profit from knowing even a little thing such as how this workshop worked. Of course, if Marie does

not care much about understanding it deeply, it can't be expected to be good research. These graphics may get in the way, but they also may stimulate your expansion and deepening of the research question.

4.5. RAISING AND ANSWERING QUESTIONS

Dissertation research and other kinds of research can be pursued with a variety of methods, in a variety of places, and with a variety of targets. Figure 4.6 indicates some of the different targets to study (without needing to know the content of the research question).

The 3 × 3 arrangement here is of no consequence. The list of nine was drawn up to counter a frequent expectation that qualitative studies are mostly studies of personal feelings. The target of the study sometimes will be a phenomenon, either a particular happening, such as a dedication of a particular memorial, or a general happening, such as dedications of memorials. Many phenomena are cultural, such as the tendency of dentists to be male, and many are natural, such as a possible tendency in Indiana for snow to fall following the blossoming of magnolia trees. There are so many possible methods for studying any area of research. Following are some examples.

As an example of a study of personal relationships, one could examine how generation-separated siblings get along with each other. For many relationship questions, the researcher looks for correspondence, how two attributes vary together (as one increases, does the other increase also?). For example, we might study how cooking habits and gender are related, such as was the stimulus for the 2003 Swedish motion picture *Kitchen*

Studying a case	Studying a phenomenon	Studying a relationship
Studying a policy	Making a comparison	Evaluating a program
Studying a distribution	Inferring a generalization	Doing a natural experiment

FIGURE 4.6. Some main kinds of qualitative research studies.