1. Unlike case stories in magazines or professional publications for educators, case studies are investigations that attempt to satisfy research standards for validity and reliability.

2. Qualitative research case studies involve intensive inquiry into instances of a phenomenon in its natural context, from both the researchers' (etic) perspective and the research participants' (emic) perspective.

3. Qualitative case studies reflect the interpretivist view, which considers reality as not objective but rather as constructed by each individual.

4. The introductory section of a qualitative case study report typically states questions to be answered, issues to be addressed, or purposes to be achieved.

5. The purpose of most qualitative research case studies is description, evaluation, or explanation of particular phenomena.

6. Selection of qualitative research cases typically is based on purposeful sampling, which involves a search for instances of a phenomenon that are information-rich.

7. Because construction, meaning making, and interpretation are central in qualitative research, the primary instrument of data collection is the researcher.

8. Qualitative researchers often practice reflexivity, engaging in self-reflection to identify, communicate, and attempt to reduce their personal biases with respect to the phenomena being studied.

9. The most common forms of data collection in qualitative research case studies are individual or focus group interviews, participant observation, review of documents and media, and use of paper-and-pencil measures. Interviews are usually open-ended and informal, similar to natural conversation.

10. Interpretational analysis of case study data is based on the principles of grounded theory, which involve coding data segments into categories and grouping them to identify different levels of information that give meaning to the data.

11. Case study researchers typically begin data analysis while still engaged in data collection and continue data collection until additional data contribute nothing new about the phenomenon being studied.

12. Case study researchers sometimes analyze their data through reflective analysis, relying on their own intuition and personal judgment.
13. Case study researchers reflect on the applicability of their findings to other settings and provide thick descriptions of their cases to help readers make their own judgments of applicability.

14. A variety of strategies are available to case study researchers to demonstrate the credibility and trustworthiness of their findings, including usefulness, participant involvement, inclusion of quantitative data, long-term observation, coding checks, member checking, triangulation, and contextual completeness.

15. Qualitative researchers have developed qualitative research traditions over time. These traditions draw on general principles of qualitative research methodology, but they study different types of phenomena and use specialized research techniques to study them.

**Key TERMS**

<table>
<thead>
<tr>
<th>applicability</th>
<th>fieldwork</th>
<th>positivism</th>
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</thead>
<tbody>
<tr>
<td>audit trail</td>
<td>focus groups</td>
<td>purposeful sampling</td>
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<tr>
<td>case</td>
<td>grounded theory</td>
<td>qualitative research tradition</td>
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<td>case focus</td>
<td>in-depth study</td>
<td>reflective analysis</td>
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<td>case story</td>
<td>insider</td>
<td>reflexivity</td>
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<td>case study</td>
<td>interpretational analysis</td>
<td>relational pattern</td>
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<td>causal pattern</td>
<td>interpretivism</td>
<td>snowball sampling</td>
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<tr>
<td>chain of evidence</td>
<td>key informant</td>
<td>tacit knowledge</td>
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<td>coding check</td>
<td>member checking</td>
<td>theme</td>
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<tr>
<td>constant comparison</td>
<td>multivocality</td>
<td>theoretical saturation</td>
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<td>constructs</td>
<td>outsider</td>
<td>thick description</td>
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<tr>
<td>critical research</td>
<td>participant observer</td>
<td>triangulation</td>
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<td>crystallization</td>
<td>pattern</td>
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<td>emic perspective</td>
<td>performance ethnography</td>
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<td>etic perspective</td>
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**How Qualitative Case Study Research Can Help Educators Solve Problems of Practice**

In sharing what they know about education, most educators tell stories. They have stories about their own experience as students, often going back to childhood. They have joyful stories about their own successes with particular students and sad stories about others. Many educators can quickly relate insightful, moving descriptions as to why a student like Jimmie or Chanova or Oliver probably will, or won’t, do well in school this year. They often will have ongoing stories about new programs as they proceed to be implemented in their schools.

Many individuals who are preparing to become teachers have told us that they found greater value in their field experience than in their teacher education coursework. Perhaps one reason is that in the field their learning is based more on stories from their fellow student
teachers, supervising teachers, and others, as well as from their own and other students' experience. Many of these stories convey to new teachers messages about "the way we do things here" and "what you need to do if you want to get a job in this school district."

**Example of a Case Story**

Bruce Biddle and Donald S. Anderson (1986) argued that some published qualitative research studies would be better described as case stories than case studies. To illustrate the difference, we present at the end of this chapter an article that appeared in *Teacher Magazine*. (We recommend that you read the article now.)

This article is a case story. A *case story* describes a series of related events in an interesting manner, but it is not intended to provide evidence for judging the validity of the events described or their applicability in other contexts. Nonetheless, this and other case stories are enlightening and interesting, and they give teachers hope that they, too, can improve their classroom instruction.

To what extent are stories like this a sound guide for other educators' practice? This question cannot be answered with any certainty, because the article does not present evidence to validate Ms. Sacks's assertions that her students "worked more productively" and "were surprisingly responsible about their use of time." In the words of Biddle and Anderson, a case story "is designed to illustrate conclusions to which the author is already committed" (p. 239).

In contrast, a *case study* is a systematic qualitative research investigation. It involves in-depth study of instances of a phenomenon in its natural context while conveying both the researchers' and the participants' perspectives and using procedures that test the validity and applicability of its findings. It would be possible for researchers to take Ms. Sacks's insights, based on her own experiences, and test them by a rigorous case study or other research method.

The features of case studies are explained and illustrated in the following sections.

---

**Key Characteristics of Case Studies**

Case study research characteristics derive mainly from ethnography, which is one of the earliest forms of qualitative research. Anthropologists typically carry out ethnography by immersing themselves in a different culture and making holistic studies of cultural behavior, beliefs, and artifacts (see Chapter 16).

The next four sections describe key characteristics of a case study, which reflect its foundation in ethnography. We use as an example a case study about bilingual education reported by Ofelia García and Lesley Bartlett (2007).

**Study of Particular Instances of a Phenomenon**

A case study is conducted to shed light on a particular *phenomenon*—that is, a set of processes, events, individuals, programs, or any other events or circumstances of interest to researchers. Examples of educational phenomena are daily life in a school's computer lab, a particular curriculum, school staff with similar work responsibilities, or school events such as meetings of the district's school board. The researchers must first clarify the phenomenon of interest before they can select for intensive study the *case*, which is the specific instance of the phenomenon, bounded in time and place, that they choose to address in their study.

García and Bartlett's case study involved an analysis of a particular institution providing bilingual education, which is the phenomenon of interest. A phenomenon has many aspects, so researchers must select a focus for their investigation. A *case focus* represents those aspects of the phenomenon on which data collection and analysis will concentrate.
In our example, the researchers wished to study a model of bilingual education different from those found in most bilingual schools. The specific case that they studied as an instance of this phenomenon is Gregorio Luperón High School, a segregated bilingual high school for Latino newcomers in a suburban New York community. Of its 350 students, 85 percent of whom are from the Dominican Republic, 82 percent have been in the United States 3 years or less. The researchers' primary focus for data collection and analysis was the strengths and drawbacks of this type of bilingual high school.

In-Depth Study of the Case

A case study ideally involves in-depth study of the phenomenon, meaning that a substantial amount of data are collected about the specific case or cases selected to represent the phenomenon. These data are mainly verbal statements, images, or physical objects, but some quantitative data also might be collected.

The data typically are collected over an extended time period, with several methods of data collection. In our example, the researchers collected data in a variety of ways:

1. Weekly participant observation for a nine-month period in lower-level English as a second language (ESL) and Spanish classes and other content-area classes
2. Seven focus groups conducted in Spanish with newly arrived students enrolled in ESL 1 and 2
3. Interviews with five teachers and two administrators of the school
4. A focus group conducted with some ESL teachers and another with the Spanish teachers
5. Recordings of monthly staff development sessions coordinated by the authors during the first year of the study

The researchers also collected data on their own experience of the school's bilingual program, as well as the research participants' experience. Data collection continued for more than a year.

This extensive data-collection process exemplifies what it means to do an in-depth study of a case. The depth in this case was made possible by the researchers' strategic decision to study a specific instance of the phenomenon of interest rather than a sample of schools, as would be done in a typical quantitative research study.

Study of a Phenomenon in Its Natural Context

Jerome Kirk and Marc Miller (1986) define qualitative research as an approach to social science research that involves "watching people in their own territory and interacting with them in their own language, on their own terms" (p. 9). This approach to research typically involves fieldwork, a process in which researchers interact with participants in their natural settings.

In education, fieldwork settings are often schools or other educational institutions, because that is where the research participants of interest to many educational researchers are found. However, we need to remember that students, teachers, and other school participants also have active lives outside these institutional contexts. Thus, you should examine case studies (or any type of research) in education to see whether the researchers conducted fieldwork in other natural sites of teaching and learning, such as the home.

In the bilingual education study, it appears that all data were collected in the school. García and Bartlett state that "most of the teachers are Dominicans, and most of these are immigrants themselves. The principal of the school . . . is also a Dominican" (p. 7). Consistent with its staff and student population and its unique model of bilingual education, "Gregorio Luperón simply teaches most content in Spanish" (p. 17).
Representation of Both the Emic and Etic Perspectives

Case studies seek to develop an understanding of a complex phenomenon as experienced by its participants. In other words, the researchers must come to understand the phenomenon from the research participants’ point of view, while maintaining their own point of view. The participants’ viewpoint about the phenomenon under study is called the emic perspective. Typically, researchers obtain the emic perspective through informal conversations with the case study participants and by observing their natural behavior in the field.

At the same time, the researchers maintain their own perspective as investigators of the phenomenon. Their viewpoint of the phenomenon under study as outsiders, which is called the etic perspective, helps them make conceptual and theoretical sense of the case and to report the findings so that their contribution to the literature is clear to other researchers.

In the case study of bilingual education the researchers convey the emic perspective of the participants in varied ways. They include detailed quotations, in both Spanish and English, that reflect students’ and teachers’ views on various issues, such as the necessity of learning English and the value of students’ bilingualism in fostering achievement. In their acknowledgements, the researchers note three research participants who read a first draft of the case study report.

The two researchers, who are employed at the Teachers College of Columbia University, make their etic perspective apparent in several ways. Their study includes a review of bilingual education from the 1960s on, citing political and legislative milestones and describing various models of bilingual education. The researchers enumerate the strengths of Gregorio Luperón’s model of bilingual education as perceived by the research participants. They provide a balanced perspective by also discussing the model’s limitations, including the social isolation fostered by the school’s homogeneous student population. The researchers express their concern that this model for bilingual education might hinder the ability of Dominican students to function effectively beyond their immediate community.

Examples of Case Studies

Case studies, and qualitative research generally, are a rich source of knowledge that educators draw on to identify, explore, and solve their problems of practice. Therefore we want to expand your understanding of the varied kinds of phenomena that case studies address and the approaches used to explore them. To illustrate, consider the following two case studies.

A Case Study of Teacher Development

A researcher (Roza Leikin) and a teacher (Shelly Rota) conducted a collaborative practitioner-oriented study to explore how teachers learn through the process of teaching and reflection (Leikin & Rota, 2006). Rota, an elementary teacher of mathematics, was both the subject and the co-author of the study. The study focused on the teacher’s management of whole-class discussion during inquiry-based mathematics instruction in one of her mathematics classrooms.

Rota initiated inquiry-based instruction, which assumes that knowledge is constructed by the learner rather than acquired directly from teachers and other sources, for several reasons. First, she wanted to improve her students’ class contributions during instruction and also their learning outcomes. Second, she and Leikin sought to clarify how she and other teachers, could teach mathematics with less stress and more confidence. Third, they wanted to discover how teachers can encourage students’ exploration and understanding of mathematics as opposed to rote learning of mathematical concepts.

Their study analyzed the teacher’s change in two aspects of instruction. The first, discussion structure, involves changes in teaching that occur in class discussion as the nature of the mathematical task shifts toward exploration and away from stating facts or seeking
to give correct answers. The second, lesson organization, involves changes in how a teacher structures the elements of a lesson.

Leikin and Rota intermittently videotaped 15 months of Rota's lessons and then analyzed the videotaped lessons. The categories for analyzing lesson organization were drawn from previous research. To analyze discussion structure, the researchers developed themes based on grounded theory (Strauss & Corbin, 1990). Three lessons, each representing a different point in Rota's development, were the focus of intensive analysis.

Using timeline diagrams, Leikin and Rota (2006) found that the second and third lessons were better organized than the first lesson "and revealed sharp boundaries between different activities and a clear correspondence between the actual and the intended lesson organization" (p. 51). For example, they found that the teacher needed to reintroduce the task four times during the first lesson because her initial introduction was confusing, whereas "in the second and the third lessons new tasks were presented... with a clear connection to relevant learning materials studied earlier" (p. 52).

With respect to classroom discourse, student participation became more active, and the teacher's participation became more responsive as the lessons proceeded. The researchers identified four discussion themes: stimulating initiation, stimulating reply, summary reply, and listening and watching. Within the first three themes, they defined six categories of discussion actions: questioning, translating a representation, exact repetition of students' utterances, constructing a logical chain, stating a fact, and providing feedback.

Leikin and Rota conclude:

The observed changes in lesson organization, in discussion structure, and in the quality of the discussion actions indicate the development of Shelly's proficiency in managing the inquiry-based lesson... Shelly became more flexible... and more able to show trust. (2006, p. 61)

The researchers suggest a model of teacher discussion activity that "is useful for diagnostic purposes" (p. 64) in analyzing teacher proficiency. "For example, the model reveals that the more proficient teacher performs more actions of the stimulated reply type, connected to student conjectures, designing the actual learning trajectory based on student ideas" (p. 64). A similar analysis of student discussion activities also reveals important changes, including taking a more active part in whole-class discussion and becoming more likely to "construct a logical chain" rather than merely "stating a fact" in their statements (p. 62).

Leikin and Rota caution that while teaching actions are teachable, they "are of a heuristic nature, that is, they are not describable by algorithm" (p. 64). In other words, no simplistic formula will help teachers develop proficiency, but rather they must construct their teaching actions flexibly based on a clear conception of their subject, their students, and their own role in the teaching-learning process.

A Case Study of Instructional Technologists' Work

Another case study by Leigh Ausband (2006) examined the involvement of district-level instructional technology (IT) specialists in the curriculum work of one school district. The cases were one former and three current IT specialists in a district in central South Carolina comprising 48 schools. Ausband, previously an IT specialist in this district, was most concerned by the problem of practice of how school districts should define and organize the work of such specialists to increase their impact on curriculum work and thereby on classroom teaching and learning.

The researcher drew on themes and categories generated by previous researchers to describe various aspects of curriculum work on a district level and also various aspects of IT specialists' work. He identified five themes that characterized the district's curriculum work: (1) curriculum and instruction, (2) technical expertise, (3) program management, (4) program coordination, and (5) communication among school staff. He then generated a table comparing the categories of curriculum work and IT work, showing both similarities and differences. He used that table as a framework for analysis of documents, observations
of each research participant, and development of questions for individual interviews and a focus group interview. He coded interview transcripts and other data, a methodological procedure discussed in greater depth later in the chapter.

Ausband found that IT specialists' work has evolved to include three new functions: improving and changing curriculum, evaluating instruction, and evaluating programs and research. These new functions reflect the specialists' perceptions that information technology fully corresponds to curriculum work. In the words of one specialist, "I don't think today you can have curriculum without technology... We can't teach today without including technology" (2006, p. 12).

The IT specialists described their actual job responsibilities as including working with teachers to help them integrate technology into the curriculum through teaching courses and workshops, helping teachers develop lesson plans that utilized technology, and supporting teachers as they developed their technology portfolios. . . . Through their membership on district-level curriculum committees and the Joint Department Leadership Team, the instructional technology specialists were involved in goal-setting, improving curriculum, planning, evaluating, and updating policies and procedures, dealing with problems, and program management. (Ausband, 2006, p. 13)

Ausband found that IT specialists were concerned about barriers that they felt limited their contributions to curriculum work. These barriers included exclusion from decision making; lack of time to spend working in schools; and communication, relationship, and leadership issues. For example, Ausband states that the IT specialists felt the district's curriculum specialists had not changed their focus on curriculum to include technology... [and that they] were more curriculum workers than the curriculum specialists themselves because most of the curriculum specialists don't have a clue about technology and don't see it as part of the curriculum. (2006, p. 14)

Drawing on these case study findings, Ausband recommends that IT specialists and curriculum specialists be physically located in the same department within the district organization to facilitate greater cooperation and coordination of their functions. Ausband also suggests the combination of their functions into one IT-curriculum specialist role.

A Case Study of Educational Privatization

Patricia Burch (2006) did a case study to describe the fundamental shifts occurring in K–12 educational privatization in the United States. Educational privatization involves schools contracting with outside firms to carry out essential operations, ranging from specific services to the takeover of entire school systems. Until recently, research on this phenomenon reflected two opposing perspectives: (1) proponent arguments that contracting public education services to nongovernmental parties can improve quality and reduce costs versus (2) opposition arguments that privatization is part of a larger threat to public education, aggravating existing inequities among students differing in ethnicity, social class, and geographic location.

Burch (2006) argues that these perspectives ignore new realities pushing for increased privatization. She draws on organizational field theory, which was developed by sociologists, to understand these new realities. Burch contends that institutions representing three types of organizations (local education agencies, nonprofit and for-profit nongovernmental agencies, and the federal government) all can be considered part of the same organizational field. Interactions across all these organizations was the primary focus of her case study.

Burch used several forms of data collection and analysis in her case study. Examining annual reports and other documents concerning education contracting by government over the past 20 years, she identified four dominant domains of contracting now occurring in the K–12 education sector. She then analyzed policy documents of 10 large school districts,
available on the Internet, to examine their contracting activities and also the impact of regulations in the No Child Left Behind Act of 2001.

Her analysis revealed an increase from 40 to 70 percent in companies’ annual reported revenues in test development and preparation; from 19 to 46 percent in data management and reporting; from 86 to 300 percent in remedial services; and from 20 to 150 percent in curriculum-specific programming. Burch also found that

sales of printed materials related to standardized tests nearly tripled between 1992 and 2003, jumping from $211 million to $592 million. . . . One of the four largest companies in the area of test development and preparation generated sales of $4.4 billion and a profit of $560 million in 2003. (2006, p. 2589)

Burch found that, in the past, vendors’ primary role was “creating the content of tests and materials designed to increase students’ test performance” (2006, p. 2589). The vendors’ role now has expanded to include aligning tests with other aspects of district reform agendas. She concludes that vendors “have expanded their role from designers of assessments to designers of systems for monitoring compliance with standards and designers of pre-packaged interventions” (2006, p. 2590).

To situate the new educational privatization in local reform efforts, Burch carried out a three-year qualitative research project in three school districts that reported relying on contracts with vendors in their efforts to implement local reform. She also did an intensive case study of one of the districts.

In her case study, Burch found that reform efforts from 2000 to 2004 continued a prior emphasis on assessment, but “the work moved from a tri-part focus on standardized tests, district-wide performance assessments, and classroom-based assessments to a more exclusive focus on norm-referenced standardized tests” (2006, p. 2598). Burch attributes this shift to “anticipation of the high-stakes accountability reforms legislated under the No Child Left Behind Act” (2006, p. 2598).

The school district that she studied began to spend significantly more money on the purchase of outside products and services. It contracted with a company that initially was local, but was bought by a large national firm. Burch reports that interactions with the national firm were much less personal and less responsive to the school district’s needs than they were with the local company.

In the discussion section of her report, Burch speculated that the influence of federal policy contradicts the view of educational privatization as a move away from government regulation and centralized governance. Instead, the expanded federal role in education has shaped the form and level of privatization now occurring.

The Nature of Qualitative Research

We have now explained the basic characteristics of case studies and presented three examples. Later in the chapter, we describe the specific design elements that a report of a case study typically includes. To lay the foundation for our description, we first briefly review the nature of qualitative research.

As we explain in Chapter 1, much of qualitative research is based on a philosophy of epistemology known as interpretivism. According to interpretivism, reality is constructed by the individuals who participate in it. Therefore, one can only understand reality and its meaning from the viewpoint of specific individuals, based on their subjective consciousness of experience from moment to moment. Thus, any phenomenon or event—a book, a mountain, or a high school football game—is not seen as having an existence independent of its participants.

A major purpose of qualitative research is to discover the nature of the meanings associated with social phenomena. Case study, the basic method of qualitative research,
involves in-depth investigation of the meanings that individuals ascribe to particular instances of a phenomenon, known as cases, in their natural setting.

By contrast, the philosophy of epistemology that characterized most prior investigation in philosophy and science until late in the twentieth century, called positivism, assumes that there is a real world "out there," which can be known by using quantitative research strategies similar to those that guide the physical sciences and professions such as medicine and engineering. We suggest that you review Table 1.3 in Chapter 1, which summarizes other ways in which qualitative and quantitative researchers differ in their approach to investigating educational and social phenomena.

Qualitative research sometimes is called case study research because of its focus on cases. However, because some case studies are carried out based on a positivist orientation, we do not refer to qualitative research specifically as case study research. We focus in this chapter on case studies reflecting an interpretivist orientation.

# Qualitative Research Traditions

Early in this chapter, we indicated that qualitative research includes a wide variety of research traditions. Each of them involves a community of researchers who have an expressed interest in particular phenomena and agreed methods for studying them. Various researchers (e.g., Gall, Gall, & Borg, 2007; Jacob, 1987; Lancy, 1993; Tesch, 1990) have attempted to identify and classify these qualitative research traditions. We present in Table 14.1 the "theoretical traditions" in qualitative research developed by Michael Quinn Patton (2002, p. 132). The table's list of 16 qualitative traditions shows the primary disciplinary roots of each perspective and states central questions that guide qualitative inquiry based on each perspective, providing a good starting point to help you explore particular types of qualitative research that appeal to you.

You should keep in mind that qualitative researchers tend to combine and differentiate these traditions over time. For example, Table 14.1 lists two ethnographic approaches: ethnography (sometimes called holistic ethnography) and autoethnography. The Sage Handbook of Qualitative Research (Denzin & Lincoln, 2005) includes eight chapters with the word ethnography in their titles: (1) critical ethnography, (2) performance ethnography, (3) public ethnography, (4) critical ethnography as street performance, (5) recontextualizing observation: ethnography, (6) autoethnography, (7) online ethnography, and (8) re-functioning ethnography. These chapters reflect the ways in which a qualitative research tradition can morph or expand into various other forms.

While Patton's (2002) list is fairly comprehensive, it does not include some forms of qualitative research that we think also can be considered traditions, namely action research and historical research. Although these forms of qualitative research are among the most general in terms of possible topics, they are very specific in their approach to research.

In the following chapters, we cover five qualitative research traditions that have had a strong influence in education: narrative research in Chapter 15; ethnography and critical research in Chapter 16; historical research in Chapter 17; and action research in Chapter 19. We also include two chapters that involve distinctive uses of qualitative research: mixed-methods research (Chapter 18), which combines quantitative and qualitative research methodologies, and evaluation research (Chapter 20), which draws on qualitative or quantitative methodology, or both.

# Features of a Case Study Report

The basic features of a report of a case study are shown in Table 14.2 (on p. 346). In explaining these features in the following sections of the chapter, we will use an illustrative case study
<table>
<thead>
<tr>
<th>Perspective</th>
<th>Disciplinary Roots</th>
<th>Central Questions</th>
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<tbody>
<tr>
<td>1. Ethnography</td>
<td>Anthropology</td>
<td>What is the culture of this group of people?</td>
</tr>
<tr>
<td>2. Autoethnography</td>
<td>Literary arts</td>
<td>How does my own experience of this culture connect with and offer insights about this culture, situation, event, and/or way of life?</td>
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<tr>
<td>3. Reality testing:</td>
<td>Philosophy, social sciences,</td>
<td>What’s really going on in the real world? What can we establish with some degree of certainty? What are plausible explanations for verifiable patterns? What’s the truth insofar as we can get at it? How can we study a phenomenon so that our findings correspond, as much as possible, to the real world?</td>
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<tr>
<td>Positivist and realist approaches</td>
<td>and evaluation</td>
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<td>4. Constructionism/</td>
<td>Sociology</td>
<td>How have the people in this setting constructed reality? What are their reported perceptions, “truths,” explanations, beliefs, and world view? What are the consequences of their constructions for their behaviors and for those with whom they interact?</td>
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<tr>
<td>constructivism</td>
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<td>5. Phenomenology</td>
<td>Philosophy</td>
<td>What is the meaning, structure, and essence of the lived experience of this phenomenon for this person or group of people?</td>
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<td>6. Heuristic inquiry</td>
<td>Humanistic psychology</td>
<td>What is my experience of this phenomenon and the essential experience of others who also experience this phenomenon intensely?</td>
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<tr>
<td>7. Ethnomethodology</td>
<td>Sociology</td>
<td>How do people make sense of their everyday activities so as to behave in socially acceptable ways?</td>
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<tr>
<td>8. Symbolic interaction</td>
<td>Social psychology</td>
<td>What common set of symbols and understandings has emerged to give meaning to people’s interactions?</td>
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<tr>
<td>9. Semiotics</td>
<td>Linguistics</td>
<td>How do signs (words, symbols) carry and convey meaning in particular contexts?</td>
</tr>
<tr>
<td>10. Hermeneutics</td>
<td>Linguistics, philosophy,</td>
<td>What are the conditions under which a human act took place or a product was produced that makes it possible to interpret its meanings?</td>
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<td></td>
<td>literary criticism, theology</td>
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<tr>
<td>11. Narratology/narrative analysis</td>
<td>Social sciences (interpretive):</td>
<td>What does this narrative or story reveal about the person and world from which it came? How can this narrative be interpreted to understand and illuminate the life and culture that created it?</td>
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<tr>
<td></td>
<td>Literary criticism, literary nonfiction</td>
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<tr>
<td>12. Ecological psychology</td>
<td>Ecology, psychology</td>
<td>How do individuals attempt to accomplish their goals through specific behaviors in specific environments?</td>
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<tr>
<td>13. Systems theory</td>
<td>Interdisciplinary</td>
<td>How and why does this system as a whole function as it does?</td>
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<td>14. Chaos theory:</td>
<td>Theoretical physics, natural sciences</td>
<td>What is the underlying order, if any, of disorderly phenomena?</td>
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<td>Nonlinear dynamics</td>
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<td>15. Grounded theory</td>
<td>Social sciences, methodology</td>
<td>What theory emerges from systematic comparative analysis and is grounded in fieldwork so as to explain what has been and is observed?</td>
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<td>16. Orientational: Feminist inquiry,</td>
<td>Ideologies: Political,</td>
<td>How is X perspective manifest in this phenomenon?</td>
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<td>critical theory, queer theory, among</td>
<td>cultural, and economic</td>
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<tr>
<td>others</td>
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</table>

TABLE 14.2 Typical Sections of a Case Study Report

<table>
<thead>
<tr>
<th>Section</th>
<th>Content</th>
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</thead>
<tbody>
<tr>
<td>Introduction</td>
<td>Hypotheses, questions, or objectives are stated. Relevant literature is reviewed. The purpose of the study usually is to describe, explain, or evaluate phenomena relating to a problem of practice.</td>
</tr>
<tr>
<td>Research design</td>
<td>The researcher describes the specific cases and aspects of the cases that will be studied. The researcher also describes the context surrounding the case and whether the case will be studied from an emic or etic perspective, or both. If the case study is grounded in a particular qualitative research tradition, it, too, is specified.</td>
</tr>
<tr>
<td>Sampling procedure</td>
<td>The researcher describes the purposeful sampling strategy that was used in the study and explains why that particular strategy was chosen.</td>
</tr>
<tr>
<td>Measures</td>
<td>Case studies typically rely on interviews and observation for data collection. Other measures, including quantitative paper-and-pencil measures, can be used as well.</td>
</tr>
<tr>
<td>Data analysis</td>
<td>The researcher describes how interpretational analysis (usually based on grounded theory principles) or reflective analysis was used to make sense of the case study data. The researcher also describes the themes and patterns that were identified as a result of the data analyses.</td>
</tr>
<tr>
<td>Discussion</td>
<td>The main findings of the study are summarized. Flaws and limitations of the study are considered. Also, implications of the findings for further research, theory development, and professional practice are considered.</td>
</tr>
</tbody>
</table>

conducted by David Emiliano Zapata Maldonado, Robert Rhoads, and Tracy Lachica Buenavista (2005). The purpose of the case study was to examine an innovative program to improve the retention of ethnic-minority students once they have entered college.

Introduction

In the introductory section of a case study report, researchers usually do not state hypotheses, but they often indicate questions they hope to answer or issues they wish to address. The introduction also describes the general purpose of the case study, which is to describe, explain, or evaluate particular educational phenomena, as explained briefly below.

Description. The purpose of many case studies is to depict and conceptualize an educational phenomenon clearly. These case studies usually provide a thick description of the phenomenon, that is, a set of statements that re-create the situation and its context and give readers a sense of the meanings and intentions that its participants ascribe to it. The term thick description originated in anthropology but is now widely used throughout qualitative research.

Evaluation. Case study researchers have developed several qualitative approaches to evaluation (see Chapter 20). In each approach, researchers conduct a case study about certain phenomena and make judgments about those phenomena. For example, a historical case study carried out by Larry Cuban (1997) bears a title reflecting the case study’s evaluative purpose: “Change without Reform: The Case of Stanford University School of Medicine, 1908–1990.”

Explanation. Some case studies seek to explain particular phenomena. The researchers look for relationships among phenomena within a case or across cases. For example, researchers might observe that American teachers in international schools vary (1) in their
perceptions of teaching in such schools and (2) in their perceptions of the local culture. Suppose that the researchers find that the teachers' perceptions of teaching are related to their perceptions of the culture. They can therefore say that they have discovered a pattern, that is, a systematic relationship between two or more phenomena within a case or across cases. If a systematic relationship is found but no cause is specified, this is called a relational pattern. If one variation appears to have a causal effect on others, it is referred to as a causal pattern.

In our judgment, the purpose of the student-initiated retention project (SIRP) case study is primarily explanation, because the researchers state their intention to develop a new theory of the best approach to promote retention of students of color in higher education institutions. Maldonado and his colleagues begin their report by noting that for the past 20 years "few higher education topics have drawn more attention than student retention" (2005, p. 605). The researchers note that colleges and universities are now stressing the need to graduate admitted students within a reasonable time frame, adding that "this is especially true in the case of students of color, who tend to leave colleges and universities at higher-than-average rates" (2005, p. 606). They state that previous retention efforts have met with limited success, so there is a need to look for new approaches.

They then introduce the phenomenon of interest in their research, namely, a student-initiated retention project (SIRP). They explain that "SIRPs represent a unified effort among student organizations to develop programs and support structures that are, in significant ways, student organized, student run, and student funded and that primarily serve students of color" (Maldonado et al., 2005, p. 606, italics in original). Such efforts, which have become major programs at many large public universities, aim to increase students' retention and academic success.

Maldonado and colleagues state the following objectives for their research: (1) raising critical questions about dominant retention theories in higher education, (2) developing a new conceptual framework by combining knowledge from a critique of these theories with their own experience working with SIRPs, and (3) applying their conceptual framework to the findings of a case study of the SIRPs at two major universities.

Their conceptual framework involves examining how students' college experience is shaped by, and shapes, the four key concepts of cultural capital, social capital, collectivism, and social praxis. These concepts concern students' individual and organizational power in situating themselves in the college experience and working collectively to transform their higher education experience. A key source in the researchers' literature review for these concepts is Paulo Freire's (1970) critique of the "banking method of education" (p. 613) that views the teacher as the all-knowing keeper of knowledge and students as passively situated, empty receptacles to be filled with facts and information by the teacher.

Research Design

The design of a basic qualitative case study involves the four key characteristics described earlier in the chapter (see pp. 338–340). Our example of case study research involves an examination of SIRPs, considering specific instances at the University of California at Berkeley and another at the University of Wisconsin at Madison. The phenomenon was investigated in its natural context, that is, on the campus of each institution where students of color lived, studied, and participated in their institution's SIRP. An in-depth study was made of these two cases, and the researchers sought to represent both their own (etic) perspective and the student (emic) perspective.

Maldonado and his colleagues (2005) state that their case study of SIRPs builds on the qualitative research tradition of critical theory research. Such research, also known as critical research, involves an examination of "the ways that the economy, matters of race, class, and gender, ideologies, discourses, education, religion and other social institutions and cultural dynamics interact to construct a social system" (Kincheloe & McLaren, 2000, p. 281). Critical research is focused on how injustice and subjugation, propagated by members of a society who have power, shape the world view of everyone in the society. Critical
researchers strive to engage research participants in efforts to emancipate and empower themselves.

**Sampling Procedure**

The selection of cases in qualitative research involves *purposeful sampling*, using researcher judgment to select instances that are information-rich with respect to the phenomenon being studied.

Michael Patton (2002) has identified 16 purposeful sampling strategies that case study researchers can use. Many involve selection of cases that represent to different degrees a characteristic of interest to the researchers. For example, a homogeneous sample of students based on math ability would include only students of average math ability, excluding students high or low in math ability. Other strategies reflect a conceptual rationale for selecting cases, such as cases that are well known or politically important.

Maldonado and his colleagues “selected the SIRPs at Berkeley and Madison because of previous knowledge we had about the size and scope of their operations” (2005, p. 616). In our view, this sampling strategy represents what Patton (2002) calls *criterion sampling*, with the criterion being the comprehensiveness of the SIRPs at the two chosen universities.

Maldonado and his colleagues (2005) focused their sampling of research participants on student organizers within each SIRP. These were individuals who were or had been students at the SIRP institution being studied and had actively participated in their SIRP's organization and leadership. Interviews were conducted with 45 student organizers, 34 of whom served SIRP-related functions at the time of the study and 11 of whom had previously worked on SIRP projects. Key informants or other research participants currently at the universities identified these former organizers. A *key informant* is an individual who has special knowledge or status that gives him or her special value in obtaining the emic perspective of the phenomenon being studied.

Selection of student organizers also involved the use of another sampling strategy, *snowball sampling*, in which cases are recommended by individuals who know other individuals likely to yield relevant, information-rich data.

In addition to sampling student organizers, Maldonado and his colleagues (2005) interviewed six full-time professional staff members with knowledge of the SIRPs at their institutions. Including these individuals in the research sample helped ensure that the researchers obtained a thick description of the SIRPs based on the perspectives of different types of individuals involved in the projects.

**Data-Collection Procedures**

It has been said that the primary instrument of data collection in qualitative research is the researcher himself or herself (Lincoln & Guba, 1985). This view of data collection reflects the centrality of construction, making of meaning, and interpretation in qualitative research.

Case study researchers use any methods of data collection that are appropriate to their purpose. They might begin a case study with one method of data collection and gradually shift to, or add, other methods. The purpose for this data-collection strategy is *triangulation*, also known as *crystallization* (Richardson & St. Pierre, 2005), which involves the use of multiple methods to collect data about the same phenomenon in order to confirm research findings or to resolve discrepant findings. It can also involve the use of different data sources, methods of analysis, or theories to check case study findings. In the next sections, we describe the methods of data collection most often used in case studies.

**Interviews**. Researchers often conduct interviews with field participants. They typically use open-ended questions to which the research participants can respond freely in their own terms rather than selecting from a fixed set of responses. The interviews can be informal, occurring in the natural course of conversation. If many respondents are being interviewed,
or if more than one interviewer is involved, the researchers might choose to use an interview guide that outlines a set of topics to be explored with each respondent.

**Focus groups** are a form of group interview in which a number of people participate in a discussion guided by a skilled interviewer. Because the respondents can talk to and hear each other, they are likely to express feelings or opinions that might not emerge if they were interviewed individually.

**Observation.** Case study researchers often observe individuals in their natural settings over an extensive period of time. Their might videotape their observations and make handwritten or tape-recorded notes. Many researchers strive to become participant observers, meaning that they interact personally with participants during activities in the natural setting in order to build empathy and trust and to further their understanding of the phenomenon. These researchers generally take notes on their observations only after they have left the field.

Case study researchers might also make observations of material culture. For example, Peter Manning and Betsy Cullum-Swan (1994) did a case study of McDonald’s restaurants using the qualitative research tradition of semiotics, which investigates how both verbal and configural sign systems convey meaning. They studied the meaning of McDonald’s sign systems as conveyed by such elements as the design of the menu board, lighting, outdoor playgrounds, food containers and utensils, and the use of the prefix *Mc- to label food items.*

**Document and Media Analysis.** Case study researchers often study written communications that are found in field settings. In accord with their interpretivist epistemology, these researchers believe that the meaning of a text varies depending on the reader, the time period, the context in which the text appears, and so forth. For example, G. Genevieve Patjkey-Chavez (1993) did a document analysis in her case study of the cultural conflict between Latino students and their mainstream teachers in a Los Angeles high school. She interpreted a local newspaper article as revealing the schools’ mission to assimilate immigrant students into the mainstream, whether the students wanted to be assimilated or not.

**Paper-and-Pencil Measures.** In some case studies, research participants are asked to fill out questionnaires, tests, or other self-report measures. Researchers typically use questionnaires when extensive contact with every research participant is not feasible and the desired information is not deeply personal. If well designed, a questionnaire can elicit in-depth information, as illustrated in a study by Ismail Yahya and Gary Moore (1985). These researchers designed a questionnaire that included open-ended questions calling for lengthy replies. They sent the respondents an audiotape with the questionnaire, asking respondents to record their responses on the tape.

Tests are commonly used in quantitative research, but they also can be useful in qualitative case studies. For example, in a case study of the mismatch between a teacher’s expectations and the actual reading achievement of two of her first-grade students, Claude Goldenberg (1992) combined qualitative and quantitative methods of data collection. He made qualitative observations of each child’s classroom behaviors and administered two standardized tests of reading achievement to each child. Goldenberg found that the child with the lower reading achievement score actually improved in reading, probably due to the teacher’s greater involvement, whereas the child with a higher reading achievement score remained in a low reading group.

**Data Collection in the Student Retention Study.** In the SIRP study, Maldonado and his colleagues (2005) conducted interviews and observations and gathered relevant documents at each site. They made three two-day visits to the Berkeley site and one four-day visit to Madison. Formal structured interviews with each of the 45 research participants, from 1 to 2 hours long, were tape recorded and transcribed verbatim.

At Berkeley, the researchers observed the SIRP organizers while they were in their office, engaging in such activities as planning events and meeting with staff of the recruitment
and retention center. At Madison, researchers observed organizers in various informal settings and at their off-campus work site.

Maldonado and his colleagues (2005) mention in their report that two of them were at one time organizers working for SIRPs and that they thus could be viewed as insiders rather than outsiders. In case study research, an insider typically is a practitioner who has an internal, or local, perspective on the problems of practice being studied. By contrast, an outsider is an individual who has an external perspective on the problems of practice being studied.

Having experience characteristic of insiders undoubtedly gave the researchers credibility and facilitated their entry to the research sites. However, no mention is made in the case study report of any efforts by the researchers to practice reflexivity, which is a process of self-reflection that case study researchers use to identify their biases, attempt to take these biases into account in their interpretations, and seek to minimize their effects on data collection and interpretation.

Data Analysis

In case study research, researchers typically begin to analyze data while they are still engaged in data collection. They seek to discover what types of findings are emerging and to add to or modify their data-collection procedures in whatever way they consider best to shed further light on the phenomenon of interest. They continue this process until they have reached theoretical saturation, which refers to a point in the process of comparing theoretical constructs and empirical indicators of their meaning when additional data collection and analysis no longer contribute anything new about the phenomenon under investigation. At that point, the researchers conclude their analysis.

Interpretational Analysis. Case study researchers often use either interpretational analysis (Miles & Huberman, 1984) or reflective analysis (discussed below) to analyze their data. Interpretational analysis is the process of closely examining and grouping elements in case study data in order to fully describe, evaluate, or explain the phenomenon being studied. The goal of interpretational analysis is to identify constructs, themes, and patterns that best make meaning of the data from a case study.

Constructs are concepts that are inferred from commonalities among observed phenomena and that are presumed to explain or shed light on the meaning of those phenomena. For example, in Ms. Jones’s fifth-grade class, many of the teacher’s acts and statements appear to be aimed at keeping order among students. An important construct that might be inferred from observation of Ms. Jones’s class is that of classroom management. A theme is a salient, recurring feature of a case. Suppose that when Ms. Jones begins presenting on a topic many students begin making jokes, calling out to classmates, or moving around the room. Such behavioral incidents suggest a theme characteristic of the class, namely students actively seeking to interrupt Ms. Jones’s teaching activities. Patterns represent systematic relationships between two or more phenomena within a case or across cases. If Ms. Jones repeatedly responds to student interruptions by attempting to ignore them and continue her presentation, researchers might presume a causal pattern between her behavior (ignoring interruptions) and students’ behavior (continuing interruptions).

A classic model of interpretational analysis is based on grounded theory (Glaser & Strauss, 1967). Grounded theory involves the principle that qualitative researchers should discover theory that is grounded in the data. They do this by examining data inductively, rather than using the deductive approach of posing a theory or hypotheses in advance to explain what they are studying.

The grounded theory procedure involves (1) recording the data (usually text obtained from interviews or observations), (2) breaking the text into segments (e.g., sentences or lines), (3) defining specific categories to reflect each important conceptual or structural element that appears in the text, and (4) coding each segment for all the categories that apply to that segment. Once all data segments have been coded into categories, the researchers then refine the set of categories through constant comparison, an essential element of grounded
theory. **Constant comparison** is a process of comparing instances of each code across segments in order to discover commonalities in the data that reflect the underlying meaning of, and relationships among, the coding categories. It depends not merely on frequency counts, but on the researchers’ effort to interpret, that is, give meaning to, the data.

The researchers who studied SIRPs state that they “followed both deductive and inductive strategies” (Maldonado et al., 2005, p. 618) of data analysis. At the beginning of their study they generated hypotheses involving a critique of the traditional views of retention that seek to promote social integration and multiculturalism. Their hypotheses involved efforts to understand the effectiveness of SIRPs from the standpoint of the “conceptual points” of cultural capital, social capital, collectivism, and social praxis (p. 609). As described in the section on findings, the researchers identified three general themes in their data that corresponded closely with these conceptual points from their original research hypotheses. They are thus based on the researchers’ deductive approach rather than an inductive approach consistent with grounded theory.

The SIRP researchers indicated, however, that they also used an inductive approach to identify the particular processes associated with successful development and implementation of SIRPs. They generated coding categories by searching through the data for regularities, patterns, and topics that reflected key discoveries about how the student organizers affected, and were affected by, the SIRP at their institution. Through this approach they discovered “unanticipated concerns or areas of understanding in which we had such minimal knowledge that meaningful theories and hypotheses could not be generated a priori” (Maldonado et al., 2005, p. 618). In the findings section we provide examples of the specific patterns that were inductively discovered in the data. The researchers also measured the degree to which two of them agreed in their coding of SIRP data, which, at 85 percent, was considered satisfactory.

**Computer Software for Analyzing Qualitative Data.** Like the SIRP study, many published case studies do not mention any use of computer software in their analysis of data. Such case studies involve a manual approach to sorting data segments into categories, for example, with the use of 3 × 5 cards. However, when case study data involve various forms of media, when the amount of data to be analyzed is very great, or when very complex forms of analysis are desired, a computer software program can speed up the process of data analysis. Consider, for example, three currently available computer software programs for qualitative data analysis.

DataSense markets NVivo, currently in version 8, through the website www.datasense.org/system_requirements.html. The program is described as good for managing complex, unstructured, or multimedia information like field notes, videos, transcripts, and audio recordings. This version supercedes previous versions of QSR International software, including earlier NVivo versions and the NUD*IST (Non-numerical, Unstructured, Data: Indexing, Searching, and Theorising) software program versions 4, 5, and 6.

Qualis Research markets Ethnograph, a software program originally developed for use in ethnographic research, available at www.qualisresearch.com. The website provides a quick tour online showing the basics of creating projects and coding data files.

ResearchWare markets HyperRESEARCH through the website www.researchware.com. This advanced software program allows qualitative researchers to analyze text, graphic, audio, and video data sources. An online tutorial and a free limited edition of HyperRESEARCH are available.

**Reflective Analysis.** Interpretational analysis involves an explicit category coding system, as we have described. By contrast, **reflective analysis** requires case study researchers to rely mainly on their own intuition and personal judgment to analyze their data. The resulting findings are thus reflective both in the sense that they mirror the conceptual framework of the particular researcher who did the analysis and in the sense that they result from a deep and deeply personal process of pondering a phenomenon.

Reflective analysis can be compared with artistic endeavors, because visual artists reflect on phenomena that they experience and then portray them to reveal both their surface
features and essences. Similarly, expert critics and connoisseurs study a piece of art both to appreciate its esthetic elements and "message" and to make critical judgments about its artistic merit.

Many case study researchers engage in similar reflections and portrayals. For example, some case studies involving evaluation (see Chapter 20) follow a process of reflective analysis known as educational connoisseurship and criticism. Evaluators using this approach both explain the features and purposes of educational programs, products, and methods and help educators to appreciate their strengths and weaknesses. Just as an art or literary critic develops reflective ability with experience, an educational evaluator must build up a store of experience in order to use reflective analysis wisely.

Reflective analysis appears to be the primary way in which findings are generated in highly creative forms of case study research, or qualitative research more generally. Such forms include performance ethnography, which involves staged reenactments of the cultural phenomena observed by ethnographers (Alexander, 2005). For example, Joni Jones (2002) staged a production, Searching for Osun, that focused on aspects of the deity Osun in Yoruba, a Nigerian culture, "that moved [her] most—dance, music, divination, Osun's relationship to children, 'women's work,' and food preparation" (p. 1). The performers assumed archetypal characters in Yoruba life, and the invited audience entered the performance space as participants, engaging in dance, dining rituals, and other performances characteristic of Yoruba life.

Other forms of reflective analysis result in poetry, oral readings, comedy, satire, and visual social science (Harper, 2005). In qualitative research using these methods, it can be difficult to distinguish between the process of data analysis and the reporting of findings, because the form of reporting itself reflects the manner in which the researchers have analyzed their data.

Laura Richardson (1992) observed that qualitative researchers who use reflective analysis typically have a postmodern sensibility. As we explain in Chapter 1, postmodernism questions all claims to authoritative methods of analysis and reporting, including mainstream scientific reports. A postmodernist would view poetry or street art as just as legitimate a form of case study reporting as more standard forms involving text, quotations, and observation.

Findings

As is typical in case study research, Maldonado and his colleagues (2005) presented their findings as themes derived from verbal data (e.g., field notes, transcripts of interviews, and videotapes). By contrast, quantitative researchers present their findings as statistics derived from numerical data.

The primary findings from the SIRP researchers' deductive approach to data analysis involved identification of three essential concerns or themes focused on making sense of the collective strategies used in student-initiated retention programs. They are described below, along with findings from the researchers' inductive analysis of the data they collected about the SIRPs and from SIRP student organizers.

Theme 1: Developing Necessary Knowledge, Skills, and Social Networks. Maldonado and his colleagues (2005) tied this theme to the conceptual points of cultural capital and social capital from their original hypotheses. The activities that the SIRPs provided to advance students' academic success, for example, included tutorial programs, study groups, organized study halls, mentoring programs, and direct efforts to assist students of color in interacting with faculty and instructors. As an example, Susan, a Laotian student organizer at Berkeley, learned that questioning her teachers was an acceptable and useful practice, and she credited her involvement in a SIRP with encouragement to "don't just accept knowledge uncritically" (Maldonado et al., 2005, p. 621).

Another inductive finding related to this theme is that SIRPs helped student organizers develop knowledge of both the dominant culture and their own cultural identity, while expanding their capacity to balance participation in each. Additionally, SIRPs developed
students' skills in public speaking, leadership, organization, and critical thinking, and also provided a social network that gave ongoing support and resources for dealing with personal issues.

Theme 2: Building a Sense of Students' Commitment to Particular Communities, Including Ethnic/Racial Communities. This theme was tied back to the researchers' conceptual point of collectivism. Based on their inductive analysis, the researchers found that SIRPs "seek to enhance students' commitment to their cultural heritage" (Maldonado et al., 2005, p. 623), which gives students better understanding of the needs of each ethnic community and their role in helping to meet such needs. The SIRPs also built bridges across particular racial/ethnic communities "for the sake of organizing a united community of color" (p. 624).

Theme 3: Challenging Oppressive Social and Institutional Norms. The researchers tied this theme to the conceptual point of social praxis from their deductive analysis. Findings from their inductive analysis showed that the SIRPs engaged students in efforts to promote improved education, protest for change, work institutionally, challenge racism, and serve their racial/ethnic communities. They found that these efforts challenged social and institutional norms that "discourage greater participation by people of color in higher education" (Maldonado et al., 2005, p. 625).

The findings also indicated that SIRP organizers aim to reconstruct the universities "on the basis of cultural norms more consistent with those of their own racial/ethnic communities" (Maldonado et al., 2005, p. 625), and as a result, ultimately improve the retention of students of color. The researchers reported that student organizers and SIRP students engaged in active challenges to racist practices in classrooms and the university as a whole. For example, they worked institutionally to influence university decisions through participation in student government.

The researchers concluded that the vast majority of SIRP programs and activities do resist an assimilationist position, consistent with one of their hypotheses. In other words, the philosophy that guides SIRPs does not emphasize assimilation of students of color to the mainstream culture, but rather it promotes students' intellectual and social development within their own racial/ethnic and collective communities. Because the researchers were committed to a critical research orientation, their report promoted this mission of student-initiated retention projects.

A Hierarchical Approach to Interpretational Analysis. Coding qualitative data is a very common procedure in qualitative data analysis, although the coding process and the resulting levels of coding are not consistently named or carried out among research studies. While not explicitly hierarchical, the process of coding qualitative data into categories typically appears to produce a set of statements that fall into several levels and thus constitute a hierarchy. For example, James McMillan and Sally Schumacher (2006) describe three levels—codes, categories, and patterns—but do not provide data from a single study to illustrate these levels.

To illustrate the levels of a hierarchical coding system, we describe findings from research by Carl Auerbach and Louise Silverstein (2003), based on a theory about the transformation of fathering that is occurring in U.S. culture. In their study of Haitian American fathers Auerbach and Silverstein found data "indicating that these Haitian Christian fathers have constructed a new definition of fatherhood which is more socially progressive and more personally satisfying than the traditional Haitian fathering role" (p. 141).

Auerbach and Silverstein's approach to coding and data analysis involves generating three levels of data, described below and illustrated in Table 14.3.

Level 1: Text-Based Categories. Researchers begin data analysis by selecting segments of text that they see as relevant to the basic concerns of the study. They then develop a set of low-inference text-based categories that paraphrase or generalize those text segments.
An example of a text-based category from Table 14.3 is “1. My dream was to look like my father.” The table shows 16 numbered text-based categories.

Level 2: Sensitizing Concepts. The researchers then organize the text-based categories into clusters of middle-level sensitizing concepts. These concepts reflect tacit or explicit themes that the text categories represent. An example of a sensitizing concept from Table 14.3 is “A. Praising aspects of the traditional Haitian father.” The table shows five such concepts, each preceded by a capital letter.

Level 3: Theoretical Constructs. Finally, the researchers group the sensitizing concepts into high-level theoretical constructs. These theoretical constructs provide the “big picture,” or theoretical interpretation, of what the researchers learned from analysis of their data. The following three theoretical constructs are shown in Table 14.3: “I. Bicultural gender role strain,” “II. Constructing a more gratifying definition of fatherhood,” and “III. A facilitating ideology.”

<table>
<thead>
<tr>
<th>TABLE 14.3</th>
<th>Example of Theoretical Constructs, Sensitizing Concepts, and Text-Based Categories from Research on Haitian American Fathers</th>
</tr>
</thead>
</table>
| I. Bicultural gender role strain | A. Praising aspects of the traditional Haitian father 50%  
| | 1. My dream was to look like my father.  
| | 2. There is no inch of laziness in my father.  
| | 3. I love the way my father treated my mother.  
| | B. Dissatisfactions with aspects of traditional Haitian fatherhood 60%  
| | 4. My father never said I love you.  
| | 5. Adults do not play.  
| | 6. When they say your father is coming you run inside.  
| | 7. My father took care of other children and didn’t care much for me.  |
| II. Constructing a more gratifying definition of fatherhood | A. Definition of a “good” father 100%  
| | 8. My job is to look over the family.  
| | 9. You’re not a boss for the children, you’re more like a friend.  
| | 10. You have to be there whenever the child needs you.  
| | 11. You call your kid and say I love you.  
| | 12. Jesus was my role model.  
| | B. An enhanced sense of self 75%  
| | 13. It has changed you, it has reconstructed you.  
| | 14. You’re looking at the children growing it is beautiful  |
| III. A facilitating ideology | A. God makes all things possible 75%  
| | 15. We are co-workers in the field of God.  
| | 16. It won’t be your doing, it will be God’s doing.  |

Note: N = 20. The percentages refer to the percentage of fathers in the sample who used the sensitizing concept.

From the data shown in Table 14.3 we can trace the coding process used by the researchers. For example, the five numbered statements under the Sensitizing Concept “A. Definition of a ‘good’ father” are all text-based categories that describe specifics of good fathering, from “8. My job is to look over the family” to “12. Jesus was my role model.”

In turn the sensitizing concepts “A. Definition of a ‘good’ father” and “B. An enhanced sense of self” both represent the theoretical construct “II. Constructing a more gratifying definition of fatherhood.” At the highest level of analysis we see the three related theoretical constructs noted above.

In summary, Auerbach and Silverstein’s research on Haitian American fathers shows how data from a case study can be coded into three hierarchical levels: text-based categories, sensitizing concepts, and theoretical constructs. This approach to interpretational analysis appears easy to learn and promising for studying problems of practice.

Discussion

The discussion section of a case study report typically includes a summary of the research findings, recommendations for practice and future research, and limitations of the study and suggestions for how these could be overcome in future research.

In the discussion section of their report, Maldonado and his colleagues detail some of the proactive efforts made by students involved in the SIRPs to create change. They conclude that these efforts are “consistent with the view of transformative education advanced by Freire (1970)” (2005, p. 633). They also conclude that the SIRP is a better model of student retention than any other described in the literature. Finally, they assert that the student organizers’ vision of social change and their contributions to democracy “should extend well beyond simply the scope of their collegiate careers” (2005, p. 634).

These conclusions reflect the researchers’ use of critical research as a framework for understanding society and individuals within it. Their endorsement of student-initiated retention projects as essential to the emancipation and empowerment of college students of color is entirely consistent with critical theorists’ agenda for research and practice.

Checking the Applicability of Case Study Findings

Quantitative researchers are concerned with whether their findings generalize to samples or populations other than those who participated in a particular research study. Qualitative researchers have a related but different concern: How can educators determine whether the findings of a specific case study are applicable to their own workplace? In general terms, applicability refers to an individual’s judgment that the findings of a case study can be used to inform a problem of practice in other settings or to serve as evidence for or against a theory of interest.

Case study findings depend on an ongoing interaction between the data and the researchers’ creative processes of analysis and interpretation. Therefore, one might argue that the findings are unique to the case that was studied. However, most qualitative researchers believe that case study findings can be applied to other settings.

One approach to determining the applicability of case study findings is to consider the sampling strategy that the researchers used to select the case. If the researchers studied a typical or extreme case, the results should be applicable to other similar cases. Researchers who use a multiple-case design usually conduct a cross-case analysis to help readers determine whether the findings are similar across cases. Demonstration of similarity suggests that the findings will also be applicable to other situations and individuals similar to those studied by the researchers.

Another view about applicability is that the readers of the case study findings are responsible for making this judgment. In this view, readers, not the researchers, need to
determine whether the cases that were studied are similar to the situation of interest to the readers. Researchers can help readers make this determination by providing a thick description of the participants and contexts that comprise the case.

Still another view of applicability is that case studies resemble stories in works of literature or “human interest” news accounts. Reading such case studies can deepen your understanding of educational phenomena that interest or concern you. Also, their insights and speculations can help you develop the capacity to explore and refine your educational practice.

Evaluating the Quality and Rigor of a Case Study

The case studies described in this chapter reflect an interpretivist view of reality. This view rejects the notion of an external reality that can be discovered through objective means. Interpretivists instead believe that each researcher, research participant, and reader of a case study report will have his or her own unique interpretation of the meaning and value of the case study.

Researchers who embrace interpretivism use many strategies to demonstrate the credibility and trustworthiness of their findings and methods. In a previous examination of the work of such researchers, we identified 17 such strategies (Gall, Gall, & Borg, 2007). These strategies typically are designed to ensure (1) that the research study has been carefully designed, (2) that sufficient data have been collected to provide rich information about the phenomenon of interest, and (3) that readers will be able to determine whether and how the results can be applied to their own settings.

Below we describe strategies that were used effectively in the case studies discussed in this chapter or in other case studies in the literature. In evaluating case studies that might help solve problems in your own practice, we recommend you examine how well the researchers used strategies such as these to increase the quality and rigor of their research. Table 14.4 lists the strategies and frames them as questions you can ask yourself as you evaluate a case study. We also suggest that you examine Appendix 3, which contains a list of questions to consider when evaluating qualitative research reports.

Usefulness

The most useful case studies focus on topics relevant to readers and provide information that helps them consider approaches to solving specific problems of practice. We selected the case studies described in this chapter with usefulness to educators as a criterion. For example, the case study about teacher learning through teaching inquiry-based math classes (Leikin & Rota, 2006) appears useful to teachers in considering how to assess and improve their skills in guiding student learning. Ausband’s (2006) study of instructional technology is useful to educators in considering how to organize and guide the work of instructional specialists in school districts for the greatest impact on teaching and learning.

Participant Involvement

Some case studies involve participants in all phases of the research, from conceptualization of the study to writing the final report. This strategy helps researchers gain understanding of participants’ emic perspective and convey it clearly to readers.

Carl Auerbach and Louise Silverstein (2003) note that this strategy improves the opportunity for case study research to contribute to a social-action agenda. Participatory research focuses on participants’ voices and acknowledges that individuals’ life experience is not standard but varies from one person to the next. It involves designing research in which researchers examine their own biases and address issues that help improve participants’ lives.
TABLE 14.4 Questions to Ask in Evaluating the Quality and Rigor of a Case Study

<table>
<thead>
<tr>
<th>Evaluative Strategies</th>
<th>Question</th>
</tr>
</thead>
<tbody>
<tr>
<td>Usefulness</td>
<td>Is the study useful in the sense of being relevant to problems of practice?</td>
</tr>
<tr>
<td>Participant involvement</td>
<td>Is the emic perspective of the research participants represented in the report?</td>
</tr>
<tr>
<td>Inclusion of quantitative data</td>
<td>Are quantitative data used, when relevant, to support qualitative observations?</td>
</tr>
<tr>
<td>Long-term observation</td>
<td>Did the researchers observe the case over a sufficiently long period of time?</td>
</tr>
<tr>
<td>Coding checks</td>
<td>If data were coded, did the researchers check the reliability of the coding?</td>
</tr>
<tr>
<td>Member checks</td>
<td>Did the research participants check the report for accuracy and completeness?</td>
</tr>
<tr>
<td>Triangulation</td>
<td>Did the researchers check whether the findings were supported by different data collection methods, data sources, analysts, and theories?</td>
</tr>
<tr>
<td>Contextual completeness</td>
<td>Did the researcher provide an in-depth description of the history, setting, participants, and culture within which the case was situated?</td>
</tr>
<tr>
<td>Chain of evidence</td>
<td>Are the research questions, data, data analyses, and findings clearly and meaningfully related to each other?</td>
</tr>
<tr>
<td>Researcher reflections</td>
<td>Do the researchers state personal assumptions, values, theoretical orientations, and biases that influenced their approach to the case study?</td>
</tr>
</tbody>
</table>

Leikin and Rota’s (2006) case study of a teacher learning through teaching reflects this strategy. Rota, the report’s coauthor and also the subject of the research, participated fully as a researcher. Chapter 19 on action research further explores research in which practitioners participate as researchers.

Inclusion of Quantitative Data

Case study researchers can supplement important findings by providing results from simple quantitative analyses. Such results enable researchers to show whether specific findings are typical, rare, or extreme.

Burch’s case study (2006) about the new trend in educational privatization uses budgetary data to reveal the huge increases in funding to vendors for managing aspects of schools’ operations since the passage of the No Child Left Behind Act.

In another case study, Leikin and Rota (2006) provide essential quantitative information about the amount of time a teacher spent on various teaching activities during three lessons at different points in the school year. The observed changes in the teacher’s time allocations revealed her growing proficiency in teaching inquiry-based math.

Long-Term Observation

Case study researchers often observe a phenomenon, using various data-collection methods, over a substantial period of time. This data-collection strategy enables them to study a phenomenon in depth and triangulate findings while confirming or disconfirming seeming discrepancies.

In their study of a high school using bilingual education, García and Bartlett (2007) made weekly observations in classes for nine months and participated for a full year in monthly staff development sessions. In their study, Leikin and Rota (2006) intermittently videotaped 15 months of the teacher’s math inquiry lessons, from which the three lessons described in the case study were selected. Burch’s study of educational privatization (2006) included a 3-year qualitative research project, during which over 250 research participants were interviewed.
Coding Checks

In their case study of student-initiated retention projects (SIRPs), Maldonado and his colleagues (2005) did a coding check of their categories. The purpose of a coding check is to determine the reliability with which different researchers classify qualitative data by the same categories. Their check for a sample of data segments revealed an 85-percent level of agreement between two researchers in assigning segments to categories. Then they discussed discrepancies in their coding in order to improve agreement in subsequent coding.

Member Checking

Maldonado and his colleagues (2005) indicate that they employed member checking to increase the authenticity of their findings. Member checking is the process of having field participants review research procedures and statements in the research report for accuracy and completeness. They carried out member checking “by sharing interview transcripts with all of the research participants and by sharing early drafts of this article with several volunteer readers from ‘bridges’ and the MCSC” (p. 619). The researchers also stated that the article was created “in a dialogical manner” (p. 633) with the student activists they studied. These procedures helped to ensure that not only the researchers’ etic perspective but also the emic perspective of the research participants were included in the case study.

Triangulation

Case study researchers usually seek to achieve triangulation or crystallization by using different data-collection methods, data sources, analysts, and theories to check their findings. This process might produce convergence, or it might clarify the reasons for apparent contradictions among findings about the same phenomenon. For example, in studies of controversial or stressful phenomena, research participants’ self-report data might be inconsistent with data resulting from more direct methods of data collection such as observation or document analysis.

Most of the case studies discussed in this chapter used a range of data-collection methods and strategies to strengthen triangulation. In his study of instructional technology Ausband (2006) analyzed documents, observed three research participants, interviewed each participant individually, and conducted a focus group interview of the three participants.

Maldonado and his colleagues (2005) sought to develop a thick description of each SIRP based on the varied perspectives of those involved in it. Therefore, they conducted in-depth interviews and observations of 45 student organizers and six professional staff members associated with the SIRP at their institution. They also read documents from each site and engaged in various SIRP events.

Contextual Completeness

An important strategy to help readers fully understand a case study involves describing the context in which the case study took place: its history, physical setting, cultural characteristics, social rules, and other features that characterize the setting.

Because participants do not speak with a unified voice in such settings, researchers need to be sensitive to a setting’s multivocality, that is, a recognition that research participants do not necessarily speak with a unified voice but instead can express diverse interests and viewpoints. They also need to incorporate tacit knowledge, the nonverbal cues that convey “the largely unarticulated, contextual understanding that is often manifested in nods, silences, humor, and naughty nuances” (Altheide & Johnson, 1998, p. 492).

Garcia and Bartlett’s study (2007) of a segregated bilingual high school in New York included a description of the setting and quotations from students and teachers, reflecting the researchers’ attention to the contextual completeness of their report.
Chain of Evidence

To help readers fully understand a case study, the report needs to explain the study design and findings in detail. Perhaps because case studies tend to be long and journals impose length limits, this detail is often lacking. Explanation of a case study’s design and findings ideally would provide a chain of evidence, which involves making clear, meaningful links between the research questions, raw data, data-analysis procedures, and findings in a case study report.

The chain of evidence often includes an audit trail, which is a written record that documents the researchers’ procedures for data collection and analysis. An audit trail makes it possible for other researchers to check the soundness of the study’s methodology and to use it in subsequent research to replicate or extend the study.

Researcher Reflection

Because the researcher is the primary “measuring instrument” in case studies, researchers can also be a primary source of bias or error that might confound the study’s findings. To address this potential problem, researchers sometimes engage in researcher reflection, also known as reflexivity, a process in which researchers ponder their role in the research setting and their assumptions, world view, and personal and theoretical orientation toward the phenomenon being studied. This process helps both to clarify the basis for their etic perspective and, to the extent possible, to remove any unintended bias or error based on such factors.

All the case study researchers whose work we have described in this chapter obviously had personal and professional experience that affected their decision to study the particular phenomena that they studied. However, their case study reports typically give minimal detail about whether researcher reflection occurred. As a result, readers must use their own reflective processes to determine whether bias might have occurred at various points in the research process.

An example of

HOW CASE STUDY RESEARCH CAN HELP IN SOLVING PROBLEMS OF PRACTICE

Online courses are proliferating at a rapid rate. Consider what is happening in Florida, according to a newspaper in that state.

Thousands of Florida students may ditch public elementary and middle schools next year in favor of online classes at home—an option that could change the face of public education.

“I am so excited about this that my goal is to go all the way through 12th grade,” said Joni Fussell, whose 8-year-old daughter has been studying at the kitchen computer in their Altamonte Springs home since January.

Florida Virtual School’s online courses for high-school students . . . went from students completing 6,765 half-credit courses in 2001 to 137,450 courses last school year.


Research sometimes is stimulated by the simple question, “What is going on here?” Undoubtedly, school teachers and administrators are wondering how the online learning experience in a different setting than school is affecting students. A case study such as that described below is one option for addressing their curiosity and questions.
Many aspects of online courses are worth investigating, but a case study needs to focus on just a few to allow for thick description. We decided to focus on how parents and students interact with each other and the online course material. Therefore, our case will be a parent and child, similar to the mother and daughter described in the article.

We will limit our sample to just one case, because we will want to make intensive, real-time observations in the family’s home while instruction is occurring. If resources are available, we would like to visit the family’s home one day per week, randomly selecting the days to visit, over the course of a school term. Our primary instrument for data collection will be note-taking. We will record all salient parent and child comments and their activities as the parent and child engage with online instruction. We also plan to interview the parent and child at planned intervals. In addition, we plan to interview other members of the family and the teacher assigned by the school district to monitor the child’s learning.

Our initial research questions are the following: What are the main types of comments that parent and child make to each other as the child interacts with the computer? What are the main activities in which parent and child engage while online instruction is occurring? What do the parent, child, other family members, supervising teachers, and other stakeholders perceive as the main benefits and problems of online instruction? We will consider collecting data relating to other questions that might arise during the course of the study.

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### Self-Check Test

1. In a qualitative research case study, the researchers strive to do all of the following except:
   a. conduct an in-depth study of the phenomenon.
   b. study the phenomenon in its natural context.
   c. maintain an objective perspective on the phenomenon.
   d. reflect the research participants’ perspective on the phenomenon being studied.

2. Looking for causal patterns in a case study reflects the goal of ________ a phenomenon.
   a. describing
   b. explaining
   c. evaluating
   d. generalizing

3. Qualitative researchers use purposeful sampling in order to:
   a. reduce the chances of selecting atypical cases of the phenomenon to be studied.
   b. eliminate the need to study more than one case.
   c. select cases that are the most convenient for in-depth study.
   d. select cases that are “information-rich” with respect to the purposes of the study.

4. In qualitative research, the primary instrument of data collection typically is:
   a. a questionnaire or other self-report measure used to collect data.
   b. audio or video recordings of field events.
   c. the researchers themselves.
   d. researchers’ key informants.

5. In interpretational data analysis, researchers consistently search for patterns inherent in the data.
   a. impose meaning on the data.
   b. search for naturally occurring segments in the data.
   c. use categories developed by other researchers.

6. Researchers who wish to rely on their own intuition and judgment in analyzing case study data will most likely use ________ analysis.
   a. interpretational
   b. structural
   c. reflective
   d. narrative

7. Reflective reporting of a case study tends to involve:
   a. an objective writing style.
   b. computer analysis of the data.
   c. a conventional organization of topics.
   d. the strong presence of the researchers’ voice.

8. Qualitative researchers believe that the best approach to handling bias in case studies is:
   a. honest exploration of the researcher’s identity and beliefs as possible biasing factors.
   b. comparison of qualitative data with quantitative data.
   c. having the data collected by individuals who are similar to the field participants.
   d. studying phenomena in which one has a minimal stake.

9. If researchers want to increase the applicability of their case study findings to other settings, it is not advisable to:
   a. study an atypical case.
   b. study more than one case.
   c. compare their case to similar cases studied by other researchers.
   d. provide a thick description of their case.

10. Qualitative research traditions typically:
    a. do not use methods associated with case study research to investigate phenomena.
    b. are grounded in positivism.
    c. use the research methods of various academic disciplines in the study of phenomena.
    d. are based primarily on models from the physical sciences.
Chapter References


Resources for Further Study


The authors provide an up-to-date, thorough description of the process of coding and analyzing data from qualitative research. They use their own case study of fathers and fathering involving Haitian American, Promise Keeper, and gay fathers to illustrate the process of planning, conducting, and interpreting qualitative research.


This book is a collection of case studies of eight living educators who have made significant contributions to the field of science education. Using a “history in person” approach, it traces each educator’s fruitful research career and shows the potential of his or her work to improve science teaching and learning at all levels. The book illustrates the value of relevant case studies to educators who are concerned with the problem of improving teaching and learning in specific education fields.


Revised and expanded from Merriam’s *Case study research in education* (1988). Provides a detailed description of all phases of qualitative research design in general and in case study research. Includes a detailed description of three actual case studies of adult learners in various contexts.

Sample Case Story

Teaching Secrets: Ask the Kids!


Teachers are always looking for new techniques to improve their classroom management. The following article is a case study about one teacher’s discovery of a technique that made a difference in her classroom.

After reading this article, we recommend that you read the next article, which reports a case study. By doing so, you can see for yourself the differences between case studies and case studies in purpose and presentation of evidence to support their conclusions.

The article is reprinted in its entirety, just as it appeared when originally published.

Teaching Secrets: Ask the Kids!

Ariel Sacks  |  It was the middle of my second year of teaching in a high-needs New York City public school. I was finally planning successful lessons and my class of 8th grade transitional English-language learners had become enthusiastic readers of whole novels in English.

So it took me by surprise when, around February, I noticed these same students yawning, poking one another, throwing paper balls, and complaining during class. I bristled at their displays of frustration and heard myself snapping back at them. I was becoming that cranky teacher I vowed never to be.

After weeks of such behavior, I began to get nervous every time this class would enter my room. I tried to make the work more exciting, but nothing seemed to change. Finally, one afternoon, I couldn’t take it any longer. My students entered my room and sat down as usual in the
U-shaped configuration of benches called the meeting area. Our agenda was on the board, and I was about to run through it. I had gotten in the habit of doing this as quickly as possible, in my most energetic tone, while I still had the illusion of my students’ attention.

But that day I thought to myself, Why do I keep pretending this is working? Something is wrong.

“You know what?” I said to the class. “I’m really stressed out. I don’t even want to go through the agenda today. Is anyone else feeling stressed?”

My students responded with a resounding, “Yeeesss!” For the first time in weeks, I had everyone’s attention.

“Wow,” I said. “Let’s go around and hear from everyone. Say anything you want. How are you feeling today about school, life—anything?”

I was amazed when one of our school’s most academically motivated students, Ana, started us off. “I feel that school is so boring now,” she said. “All we want is to talk with our friends.”

“Yeah,” added Lizabet. “We are so stressed, because of all the tests. One test finishes and you have a test or a project due the next day. We don’t get a break! We are, like, oppressed people.” (“Oppression” was a literary theme we’d been discussing.)

José said, straight-faced, “Sometimes we just want to have fun.”

Suddenly, the whole class was talking at once. I had to remind them to take turns and let everyone be heard. They did, because they really wanted to hear what others thought.

Comments I might have laughed off as adolescent whining on another day, I decided to take seriously. “You never give us popcorn anymore” and “We never watch movies” took on new meaning. The students’ pleas for more time to socialize struck me as particularly important in a school that offered no recess, no advisory, and gym and art only once a week. The students’ developmental needs were not being met by the school. I would have to do something differently if I expected any real change in my classroom.

We began negotiating. I wrote on the board, “Social time, popcorn, movies, fun.” I thanked the students for being honest with me and told them I was willing to make changes to satisfy each one of these requests.

I offered to give them the first five minutes of class for social time. There would be rules, but this would be strictly free time. They could walk around, talk with one another, play cards, etc. But they were not permitted to run, throw, play-fight, use cell phones, or allow the volume in the room to get so loud that they couldn’t hear the Tibetan meditation bell that always signals the end of break. They had to come immediately to the meeting area at the sound of the bell. We would then assess how the break went before moving into our agenda for the day.

I never knew so much relief could come from five minutes of freedom! We also decided that if the class worked well Monday through Thursday, we would have popcorn and fun on Friday. We watched movies that related to our literature studies, or we played games. Other times, we needed Fridays to finish work. I found that, when I opened it up for negotiation, the students were surprisingly responsible about that use of time.

Despite some difficult conditions, the rest of the year was a joy. My students and I battled burnout through honest dialogue, and they worked more productively than I had imagined possible. I’ll never forget that class for helping me to develop routines I still use—and for showing me what students are capable of when we take time to listen and include them in the decisions of our classrooms.

About the Author
Ariel Sacks is beginning her fourth year of teaching in the New York City schools.

Sample Case Study

General Education Teachers and Students with ADHD: What Modifications Are Made?


U.S. schools have several million students with attention deficit hyperactivity disorder (ADHD). Educators are faced with the problem of how to help these students achieve their learning potential.

The following research article presents case studies of four elementary school teachers and four middle school teachers who teach students with ADHD in their classrooms. The
researchers studied what teachers knew about this disability and the extent to which they modified their instruction to help their students with ADHD learn effectively. The article is reprinted in its entirety, just as it appeared when originally published.

General Education Teachers and Students with ADHD: What Modifications Are Made?

E. Jane Nowacek
and Nancy Mamlin

ABSTRACT ■ We investigated 4 elementary school general education teachers’ understandings of the characteristics of students with attention deficit hyperactivity disorder (ADHD) and what academic and behavioral modifications they implemented for these learners. Two major findings emerged: (a) teachers provided few modifications for individuals with ADHD and (b) they provided idiosyncratic, nonsystematic modifications. We followed this investigation with a second multiple case study with 2 middle grade teams in which we examined their understanding of the characteristics of students with ADHD and the modifications they made. The two middle grade teams implemented a variety of modifications that they reported were chosen with the developmental level of their students in mind and knowledge of the resources available, rather than the needs of individual students. We found both elementary and middle grades teachers knew key characteristics of students with ADHD. Although they knew the characteristic and needs of these students, there were few modifications that all or a majority of the teachers made at either grade level.

KEYWORDS ■ ADHD, general education, modifications

By 2000, there were four to five million people, mostly school aged, diagnosed with attention deficit hyperactivity disorder (ADHD), twice the estimate given a decade earlier (Mayes, 2002). As described in the Diagnostic and Statistical Manual of Mental Disorders fourth edition (DSM-IV, American Psychiatric Association [APA], 1994), this disorder involves inattention, hyperactivity, impulsivity, or a combination of these symptoms. Given that prevalence rates in general education classrooms are estimated to be as high as one to two students per classroom (Barkley, 2000), providing appropriate education poses a challenge.

Although children with ADHD experience significant academic and behavioral difficulties, research suggests that the majority of classroom teachers lack knowledge of what constitutes appropriate interventions and modifications (Parker, 1992). Moreover, a search of the literature revealed few studies that examined teachers’ instructional and behavioral modification practices. This is problematic given that many students with ADHD do not qualify for special education programs and, therefore, are the sole responsibility of general education teachers. Furthermore, current laws, such as the Individuals with Disabilities Education Improvement Act (IDEA, 2004), Sec. 504 of the Rehabilitation Act of 1973, and the Americans with Disabilities Act (ADA), support regular class placement for these students (Turnbull, Turnbull, Shank, & Smith, 2004).

Academic Intervention

Although there is little research that specifically addresses interventions for students with ADHD, several academic interventions appear to have promise, including peer tutoring, strategies instruction, and computer-assisted instruction (DuPaul & Eckert, 1998; Spries & Stone, 1989; Pressley & Woloshyn, 1995). Each of these interventions attempts to address the major symptoms of ADHD: impulsivity, inattention, and hyperactivity.

DuPaul and Eckert (1998) described the use of peer tutoring that may enhance the learning of students with ADHD because it featured one-on-one assistance, individualized pace, continuous prompting, and immediate feedback. In a recent review of research syntheses, Vaughn, Gersten, and Chard (2000) reported that peer tutoring was associated with improved outcomes for all students, including students with ADHD. Another technique, use of a partner board for recognizing good work, led to reliable increases in on-task behavior and reductions in fidgeting (DuPaul & Eckert, 1998; Kemp, Fister, & McLaughlin, 1995).

A second approach, strategy instruction, teaches students to use a set of procedures or strategies that specifically address demands of an academic situation. Although this type of intervention would seem to be an effective way to address needs of students with ADHD, there is scant research in this area. Spries and Stone (1989) investigated directed notetaking [with] students with ADHD. In directed
notetaking, students are taught a structured split page format for taking notes and a self-questioning strategy for monitoring levels of involvement before, during, and after notetaking and are provided with direct teaching of the notetaking process. This strategy would seem useful for students with ADHD, as taking notes may be more beneficial than passive listening (DuPaul & Eckert, 1998). There are some benefits to teaching this particular strategy including an increase in the quality of notes, recording of details, on-task behaviors, and improved daily assignment performance. Other interventions that have been suggested in the literature for students with ADHD include providing a listening guide, or partial outline; using framing [cloze procedure]; and allowing tape recording (Chalmers, 1991).

In their review, DuPaul and Eckert (1998) reported two empirical studies that addressed computer-assisted instruction. To make a difference, software had to offer (a) individual instruction levels, (b) easily readable display formats, (c) self-pacing, (d) motivational features, and (e) game formats with animation. For example, in one study they described, students using computer-assisted instruction completed twice as many problems as a pencil and paper group and spent more time working on problems.

**Behavioral Interventions**

Self-regulation and self-reinforcement strategies have been effective in addressing behavioral needs, such as impulsivity and poor social skills (Abramowitz & O’Leary, 1991). Self-regulation includes teaching problem-solving techniques, self-evaluation, and self-control (Westby & Cutler, 1994). In one intervention (Shapiro, DePaul, & Bradley-Klug, 1998), two 12-year-old students with ADHD were taught to rate their behaviors by comparing their ratings to those of their teachers. After learning to accurately judge their behavior, comparisons and backup reinforcement in the form of points were gradually reduced and the rating interval was increased until students moved toward complete self-management. In addition, DuPaul and Eckert found that teaching self-regulation strategies was more effective than the use of medication alone, and when combined with medication, had a greater effect. Results of studies have indicated that positive reinforcement is an effective behavioral intervention (DuPaul & Eckert, 1998; Fiore, Becker, & Nero, 1993; Fabiano & Pelham, 2003). For example, Fiore et al. reported positive reinforcement procedures were effective in reducing the activity level and increasing the time on-task of children with ADHD. Fabiano and Pelham similarly found that increasing the opportunities to earn rewards and providing immediate feedback, as well as defining the criteria needed to meet behavioral goals, had “powerful behavioral effects” (p. 127) in an ADHD-diagnosed third grader’s behavior in both general and special education classrooms.

In their review of behavioral interventions for students with ADHD, Abramowitz and O’Leary (1991) discussed several studies that used contingency management techniques (e.g., classroom token economies, home-school contingencies) to reduce disruptive behavior. Moreover, teachers can use a combination of functional behavioral assessment and contingency-based techniques to increase appropriate behaviors of their students (Hallahan, Lloyd, Kauffman, Weiss, & Martinez, 2005). Peer-mediated contingency interventions also have had positive results (Northrup, et al., 1995).

Given the limited number of studies in which researchers examined interventions with students with ADHD and the growing number of students identified with ADHD, we wondered what teachers understood about the characteristics associated with ADHD and what modifications and interventions they used with these students. First, we conducted a multiple-case study with elementary school teachers (Study 1). After completing this study we investigated similar issues with middle grade teachers (Study 2) and we considered the relationship between teachers on teams as well as the particular characteristics of young adolescents.

**STUDY 1**

**Method**

**Participants.** We selected teachers who met three criteria: (a) were identified by their principal as being effective, (b) had at least 5 years teaching experience, and (c) were already teaching students with ADHD. We selected two teachers in primary grades (grades 1–3) and two in upper elementary grades (grades 4–6). During the five-year period preceding our study, all of these educators had participated in staff development that addressed special education, including ADHD.

Ms. Bradley, an educator for over 11 years, taught second grade. With 5 of the 21 students in her class identified as having ADHD and only 1 special education teacher in the school, she reported she experienced little external support. Mr. Campbell was a sixth grade teacher who had been teaching for 28 years. He and one other sixth grade teacher shared responsibility for the 50 sixth-grade students to whom Mr. Campbell taught science, social studies, math, and physical education. At the time of our study, he had 4 students identified with ADHD. Patricia Rossford, a third-grade educator, spent most of her 20 years as a teacher working in an elementary school. During the study, 5 of her 24 students were identified with ADHD. Sandy Wilson, a fourth-grade teacher, had completed 25 years as an elementary school educator. At the time of the study, 1 of her 17 students was classified with ADHD.

**Procedure.** After receiving IRB approval, we designed a multiple-case study (Yin, 1994) to investigate four elementary school general education teachers’ understanding of the characteristics of students with ADHD and to learn about the academic and behavioral modifications they implemented for these students. Before we began the interviews, the teachers completed a consent form, a demographic information form, and an open-ended question in which they provided their own definition of ADHD. At that time, we described the study and procedures for
maintaining their anonymity (e.g., using pseudonyms, destroying tapes). After the interviews, we conducted classroom observations.

**Interviews.** We asked semistructured questions (Patton, 1990) aligned with the literature in individual interviews. Our questions focused on characteristics of students with ADHD, the academic and behavioral modifications these teachers made, and their methods for promoting acceptance of all students in their classes (see Appendix for questions). After posing each question, we followed up with probes when necessary. These probes covered information such as frequency of modifications, specific types of modifications, and rationale for selecting modifications for certain students. We tape-recorded and transcribed these interviews verbatim. To enhance the rigor of the research, we triangulated the data by conducting classroom observations. To promote reliability (Bogdan & Biklen, 1998), we each took independent field notes during the same observation. In all cases, the data from the field notes converged and were not contradictory. Further, we conducted each interview independently to avoid influence from other participants.

**Analysis.** We independently coded the data, using the constant comparative method (Bogdan & Biklen, 1998). Several categories emerged from our initial, independent analyses. Next, we compared our codes and negotiated differences, contacting the participants for clarification when necessary. Once we agreed upon the categories, we defined each one to ensure that they were mutually exclusive. Then, we listed all instances of each category by line number and speaker as they appeared in the transcripts. This gave us a visual representation of the frequency of occurrence in each category. In addition, we reviewed the transcripts to discover data that seemed to be particularly salient to the participants. Given the frequency and saliency of categories in the data, two themes emerged: (a) orientation to the class as a whole and (b) idiosyncratic and nonsystematic modifications. First, we discuss the findings from the open-ended question and then discuss these themes.

**Results**

Although the school context and educational backgrounds differed for each of the teachers, all were familiar with the characteristics of ADHD. Ms. Bradley, for example, described these students as showing “a lot of impulsiveness” and an “inability to stay focused on a task for very long.” She further added that they “seem to be loners.” When responding to probes about ADHD and its implications for student intelligence and academic ability, Ms. Bradley concluded that “some are bright, some are right-brained and are capable of doing work, if they can stay focused.” Ms. Rossford, the other primary grade teacher, agreed that students with ADHD showed an “inability to focus or attend,” were “easily distracted,” and experienced “difficulty in getting things done.” Ms. Wilson summed up the two upper elementary teachers’ understanding of ADHD characteristics as “having difficulty listening, organizing, and following through with work due to (demonstrating) easy distractibility and impulsive behaviors.” She further explained that “it [ADHD] covers too much; from the child who never disturbs anybody but never gets anything finished, to those that absolutely take your room apart because they are bouncing off the wall.”

**Theme 1: Orientation to Class as a Whole.** First, the general education teachers in this study were oriented to the class as a whole. They tended to make modifications that maintained the integrity of the academic subject and required little individualization in terms of planning, instruction, and resources. Only one teacher, for example, commented on using school or outside personnel. Ms. Bradley, the second grade teacher, explained that she had “a lot of university volunteers and paid tutors” that enabled her to “break the kids into smaller groups to read.” She also commented that in math the “amount of work” is modified for everybody and it is a reasonable amount.” She also reported having “a set schedule (for everyone because) they do much better with structure.” The third-grade teacher also commented that the structured setting in her classroom helped these children tremendously, as well as it did all of her students. Mr. Campbell, the sixth-grade teacher, reported helping all his students with time management and by putting notes on the board for his students to copy. All teachers, except Mr. Campbell, shortened some of the assignments they gave to students with ADHD. The few individual academic modifications they made included (a) use of modified spelling lists (second-grade teacher), (b) use of Content Reading in the Secondary Schools (CRISS) strategies (second-grade teacher), (c) permitting dictation to scribe (third-grade teacher), (d) providing copies of book pages so students with ADHD did not have to write down math problems (third-grade teacher), and (e) permitting students with ADHD to choose where they wanted to work (fourth-grade teacher).

**Theme 2: Idiosyncratic and Nonsystematic Modifications.** The second theme involved the nonsystematic implementation of the few modifications made for students with ADHD. For example, Ms. Bradley reported “some days I let them pick their partners.” She also commented that she allowed students with ADHD [to] “have a little more leeway” in discipline situations and gave “them a little bit of flexibility.” Mr. Campbell commented similarly that he “made allowances” for their difficulty in focusing on tasks and moved students with ADHD away from others so that they were better able to focus. Our observational data suggested, however, that these modifications were not consistent or predictable. The teachers in our study also reported making other behavioral modifications: (a) attending to grouping arrangements (second- and third-grade teachers), (b) ignoring inappropriate behavior (third-grade teacher), and (c) allowing more frequent movement (fourth-grade teacher). Although we observed instances in which
all these modifications were made, we also observed times when they were not.

**STUDY 2**

**Method**

Given the paucity of research on interventions or modifications for students with ADHD, it is not surprising that we found little in the literature that specifically addressed modifications made for these students in middle grades. In a 2003 search using the terms “ADHD” and “middle school,” we located no research studies and only one study that offered suggestions for middle school teachers (Taylor & Larson, 1998).

**Participants.** After conducting our initial investigation with elementary school teachers, we wondered if grade level would make a difference in the interventions and modifications teachers make for students with ADHD. We also wondered what the effect of the “team” approach used in middle grades and multiple teachers’ rules and requirements would be on students with ADHD.

Therefore, we conducted a second multiple-case study that focused on two small, rural middle grade teams (Grades 6–8) in the South. Although there were no middle schools in the district, the K–8 schools housed middle school students in a separate part of the building and emulated a middle school schedule and philosophy. We interviewed a team of two teachers in each school. The team at Mayfair School included Bob Harrison, who had 8 years of teaching experience, taught social studies to his homeroom and math to sixth-, seventh-, and eighth-grade students and was currently the team leader for the middle grades. The second member of the team, Carol Downing, who had 22 years of teaching experience, taught social studies to her homeroom and language arts to sixth-, seventh-, and eighth-grade students. In a second rural school, Garrison School, Andy Summer and Candace Hoover taught eighth-grade social studies and science, respectively. Mr. Summer had 27 years of experience whereas Ms. Hoover had 21. All of these teachers had at least two students identified as having ADHD in their classes.

**Procedure.** In an effort to allow comparisons across Study 1 and Study 2 case studies, we followed the same procedure, interview protocol, and analysis process as we had in Study 1. As in Study 1, each teacher, upon agreeing to participate, completed demographic information and responded to a question regarding their own definition of ADHD. We then asked semi-structured questions (Patton, 1990) and triangulated the data by conducting classroom observations. We initially categorized both the interview and observation data using the main interview questions (see Appendix). From these categories, the final three themes emerged: acceptance, team decisions, and resources. We will first describe the initial categories, then the themes.

**Results**

As in Study 1, we found that middle grade educators knew key characteristics associated with ADHD as outlined in the DSM-IV (APA, 1994). Specifically, they indicated that students with ADHD experienced difficulty in these areas: (a) attention, (b) hyperactivity, and (c) distractibility. They identified difficulty coming to attention and difficulty sustaining attention as characteristics and commented on the unproductive movement often associated with students with ADHD.

Although all of the teachers in our study knew characteristics associated with ADHD, they used a relatively small number of modifications. Some academic modifications were seen as unnecessary in the middle grades by these teachers. For example, one team of teachers (i.e., Garrison School) pointed out that many interventions had been tried and established in earlier grades. One teacher reported that his team did not do a lot of modifications because of the structure of the middle grades and their teaching styles. He also mentioned that they are trying to get the students ready for high school, where they believed few modifications would be made. These teachers spoke of the academic modifications they made in the classroom for their students with ADHD in three ways: (a) modifications to the assignments themselves, (b) modifications to the environment, and (c) use of another person as an academic support.

These teachers implemented behavioral accommodations that can be grouped into two categories that relate directly to the characteristics the teachers identified: (a) modifications that promoted attention and (b) modifications that allowed movement. For example, teachers attended to grouping arrangements, so that students with ADHD were paired with students without identified disabilities. They reported “giving allowances” for students with ADHD in allowing them to get up and move around the room, or they gave specific tasks to students with ADHD that required their movement in the classroom. For example, the science teacher asked these students to assist with experiments in the classroom, turn on lights, and pass out papers. Finally, teachers commented that the middle-grade setting itself provided some support for students with ADHD because students switched classes and were generally more active in their classes. Candace Hoover at Garrison School reported (in middle grades), “we don’t sit at our desks all the time.” Her other team member, Andy Sommer, observed that “usually by the time they get to us [in the middle grades], if they’re on medication there isn’t a need for a lot of physical modification other than the normal things you would do for anybody.” From the interviews and observations, three themes emerged: (a) acceptance, (b) team decisions, (c) and resources.

**Teacher Acceptance of Students**

The participating teachers had several ideas about promoting acceptance among all students. Also, teachers seemed to have their own style of classroom management to enhance acceptance. For example, Bob Harrison said that
he “hit problems head-on,” whereas her team member, Carol Downing, said that she “tries to be subtle about it.” She saw inclusion as promoting acceptance. According to her, students being in the same curriculum and classroom helped them know and accept one another. Downing also focused on self-esteem and read literature in her classes that dealt with differences (e.g., *To Kill a Mockingbird*, *The Pearl*). All teachers spoke of their actions in the classroom as modeling acceptance. Harrison specifically mentioned modeling respect and patience and Andy Sommer mentioned ignoring inappropriate behaviors. Downing said that she treated all students as capable, focusing on their areas of strength, trying to encourage them. She also mentioned trying to “ward off” situations where things may not turn out as they should. In addition, this teacher used a self-esteem-building curriculum.

Teachers also reported actively involving other students in promoting acceptance. For example, Candace Hoover described the circle discussions she conducted in which students shared good things about another student and then discussed ways in which they could help that student improve. She reported that in her experience, most students were willing to try and work things out and that they were used to adult assistance with this.

Providing structure within the classes also was seen as enhancing acceptance. In a science class, for example, Mrs. Hoover switched groups every 2 weeks, so that eventually each student worked with every other classmate. She also used activities in which she assigned students to groups and did not allow students to choose their own groups to provide control over who worked with whom.

**Theme 2: Team Decisions.** All the teachers reported working well as members of their middle grades team. As we mentioned earlier, each grade-level team in this study consisted of two teachers. The small size of the team was noted by Mr. Harrison as an advantage. However, he did note that they had no common planning time, and therefore, needed to communicate daily at lunch and in the hallways, a fact mentioned by three of the four teachers in our study. The team at Mayfair had a team meeting once a week, which was described as mostly “taking care of logistics,” although these teachers tried to devote at least one meeting a month to curriculum. The teachers described a lot of time on this team as devoted to taking care of discipline issues, not necessarily involving the students with ADHD. At Garrison, Mr. Sommer said that the team made no curriculum decisions because they used the state curriculum. However, that team did decide to have the students move to another teacher or class every 50 minutes, which was seen as a benefit to the students with ADHD. Carol Downing said that they “talked constantly about the kids.” Ms. Hoover said that they planned together regarding how to deal with the students with ADHD and that they made a practice of passing along problems and information about students to the next teacher.

**Resources**

In considering the resources available in the middle grades, all teachers reported using both the professional resources within the school and other people to meet students’ needs. Four teachers mentioned using the school-wide assistance team. Mr. Harrison commented:

I think that’s been one of the best things that I’ve had a chance to work on... You’re dealing with things that teachers have brought to this committee that there’s no simple solution. ... [On the committee] You’ve got the guidance counselor, you’ve got the resource teacher, you’ve got the speech language pathologist, you’ve got the psychologist, you’ve got the principal, and you have a wide range of classroom teachers. You’ve got the benefits of all that wisdom around one table, and if there is a solution, it’s found out.

Mr. Harrison also identified reviewing student folders as helpful. In addition, three teachers referred to having 504 programs or plans and a professional library in their school as important resources.

Ms. Hoover found peer help—talking with students’ previous teachers about “what worked and what didn’t” a valuable resource. It is interesting that only one teacher (Mr. Sommer) reported parents as resources. Mr. Harrison remarked: “I should probably tell you that I go look it [information] up, but a lot of times I’ll just call the guidance counselor or special education teacher, somebody that deals with it all the time.” The same teacher commented that we “beg for interns, tutors [from the nearby university]. Any help that we can get in our classroom, we want it. Student teachers, we have a high number of student teachers and interns... I’ve got one intern, and I’ve got two tutors that are [here] during the day, and I have two tutors after school.”

His teammate identified the availability of materials such as Franklin spellers and Alpha Smarts as useful. In addition to personnel, records, and materials, two teachers mentioned workshops and in-service programs as being valuable resources. Mr. Harrison commented that school planners given to students by the county provided a vehicle for recording homework and communicating with parents.

Andy Sommer was the only teacher who related resources specifically to the middle grades. He commented that “very few people will volunteer in the upper level... [This year] we’ve had two [volunteers] so far. This age intimidates the volunteers... this age is a real difficult age, because they challenge you at every step of the way.”

**Limitations.** We conducted one long in-depth interview with each teacher that may limit reliability. However, participants spoke with us on the phone to answer questions and clarify information as required. Furthermore, although this was a multiple-case study, all participants taught in a rural or small university community. Therefore, the findings may not be generalizable to other settings, including larger or more urban communities. Although all of the participants had attended some recent in-service activities regarding
students with special needs, only three of the eight teachers had more in-depth instruction in special education (i.e., a university course).

Discussion
After reflecting on the results of these studies, we reached several conclusions. First, both elementary and middle grades teachers knew key characteristics of students with ADHD. They all noted distractibility, impulsiveness, and inability to stay focused on a task. Despite knowing the characteristics and needs of students with ADHD, the majority of teachers made few individual modifications at any grade level. The interview data indicated that teachers had their own idiosyncratic sets of modifications that they used with varying degrees of consistency. Although one explanation for this may be that these were all experienced teachers who, over time, had developed their individual teaching and management approaches, we believe these data have important implications for teacher educators and school districts as they plan professional development programs. First, workshops that focus on characteristics and causes may not provide teachers with sufficient information to modify their practice. Even when given information about modifications for students with special needs, general educators may not have ongoing support to implement changes and refine their practices. For example, Showers, Joyce, and Bennett (1987) estimated that teachers need 25 opportunities to practice a complex strategy to ensure transfer of the strategy to their practice. Given the limited number of specialists in these rural schools, support, too, was limited. Finally, with the increased expectations resulting from high-stakes testing and accountability programs, teachers may feel that individualization is too time consuming, and therefore, implement primarily whole-class strategies (Zigmond & Baker, 1995). Furthermore, Bryant, Dean, Elrod, and Blackbourn (1999) found that rural teachers preferred those modifications that did not change the type or amount of information students had to learn. Moreover, they found that these educators preferred modifications that took the least amount of time to implement and were less likely to separate students with disabilities from those without disabilities.

In general, the middle-grades teachers we observed and interviewed made more academic than behavioral modifications in contrast to the elementary teachers in our study. One middle-grades teacher offered the explanation that these older students regulated their behaviors, either through the use of medication or because they have learned to manage their own behaviors in elementary schools. However, our observational data suggested that students with ADHD in the middle grades continued to be easily distracted and were often inattentive and hyperactive. Although both elementary and middle-grades teachers focused on the whole child, there was an increased emphasis on academics in the middle grades. We conclude that professional development and teacher preparation programs need to help teachers address behaviors that interfere with academics. Our findings support those of Boyer and Brandy (1997), who found that teachers’ most frequently cited concern was the need for training in working with students with disabilities.

The elementary school general educators we interviewed were oriented to the class as a whole and seemed to make limited individual modifications. Two elementary-school teachers discussed the importance of a structured environment for many, if not all, students. The most commonly used modification for students with ADHD was shortening either the work period or assignments. Although three of the four elementary-school teachers modified the length of time or required work, only one reported making other individualized modifications including permitting students with ADHD to dictate their papers and providing copies of math textbook pages so they did not have to copy the problems. However, our observations suggested that these modifications were not consistently implemented.

Similarly, the middle-grades teachers in our study reported making modifications to assignments. As with the elementary teachers, all four middle-grades teachers indicated that they reduced the length of assignments. The team at Mayfair indicated that they also used audiorecorded books and read the class materials aloud, provided extended time on tests and written assignments, and gave some differentiated assignments. All the middle-grades teachers also made environmental modifications such as allowing students with ADHD to use the computer for written assignments, checking assignment planners, and reminding students of the materials they would need in the class before class began. Moreover, all four of these teachers indicated that they made use of other people to assist students with ADHD academically. Two teachers reported that they asked the special educator for advice. Other support personnel the teachers mentioned using included the 504 coordinators, volunteers, and peer tutors. In summary, although these middle-grades teachers indicated an awareness of the individual students in their classes and did not discuss students in terms of the whole class, our observational and interview data did not indicate that these general educators made many modifications for individual students. Rather, they knew the resources available to them and used them when they deemed them necessary. This supports Polsgrove and Gable’s (2003) observation regarding the inadequate preparation of teachers of students with behavioral problems.

Regarding behavioral modifications, three of the general educators in the four elementary schools we studied discussed providing opportunities for these students to move about the classroom. Two reported applying the rules more flexibly for children with ADHD. Again, our observations suggested that, although these modifications were used, they were not systematically implemented.

The middle-grades general educators in our study discussed behavioral modifications in three categories: enhancing attention, addressing hyperactivity, and promoting acceptance. To increase attention, all four teachers indicated that they paired students with ADHD carefully and monitored group work closely. One teacher reported
giving physical and verbal cues whereas his teammate indicated she gave praise for staying on task and completing assignments.

To address hyperactivity, three teachers discussed giving allowances, such as ignoring students with ADHD being out of their seats. We also observed one team member who provided opportunities for students with ADHD to move about the classroom and reported structuring her classroom so that everyone knew where everything was located and could get materials on their own. She further provided opportunities in the lesson for students with ADHD to work with limited distractions.

These four middle-school teachers were well aware of the implications of working with adolescents. They were concerned about acceptance of all students and students’ acceptance of themselves. Although this is a worthy goal, general education preservice training and professional development programs should emphasize that it is not necessarily fair. Rather, as Bryant, et al. (1999) pointed out, “It can mean providing what an individual needs at a given time” (p. 10).

Although the elementary and middle-school teachers we interviewed reported that they attempted to meet the needs of their students with ADHD, they seemed to select modifications that could be performed without advanced planning, that did not require differentiated instruction, or behavioral intervention, or that could be addressed by another professional or support person. Like Lambert, Dodd, Christiansen, and Fishbaugh (1996), we found the implementation of modifications used most often by teachers of students with disabilities: (a) required minimal preparation time, (b) tended to be unresponsive to skill needs of students with disabilities, and (c) were met by adults other than the classroom teacher.


References


**APPENDIX**

**Interview Questions**

Question #1: What does the term ADHD mean to you?
Question #2: What characteristics do you associate with students identified as having ADHD?
Question #3: What modifications other than academic modifications do you make in your classroom for students identified as having ADHD?

Question #4: What academic modifications do you make in your classroom for students identified as having ADHD?
Question #5: (asked of middle grades teachers only): What resources are available to you here to work with students with ADHD?
Question #6: (asked of middle grades teachers only): What types of decisions do you make as a team?
Question #7: How do you promote acceptance of all students? Give specific examples.

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