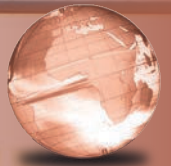


GLOBAL
EDITION



Practical Research

Planning and Design

TWELFTH EDITION

Paul D. Leedy • Jeanne Ellis Ormrod



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PRACTICAL APPLICATION Developing a Plan of Attack

Once you have determined that your research project is feasible, you can move ahead. Yet especially for a novice researcher, all the things that need to be done—writing and submitting the proposal, getting IRB or IACUC approval, arranging for access to one or more research sites, acquiring existing assessment instruments or developing new assessment strategies, setting up any experimental interventions you have planned, collecting data, analyzing and interpreting the data, and writing the final research report (almost always in multiple drafts)—may, in combination, seem like a gigantic undertaking. We authors recall, with considerable disappointment and sadness, the many promising doctoral students we’ve known who took all required courses, passed their comprehensive exams with flying colors, and then never earned their doctoral degrees because they couldn’t persevere through the process of completing a dissertation. “Such a waste!” we thought then . . . and continue to think now.

You must accept the fact that *your project will take time—lots of time*. All too often, we have had students tell us that they anticipate completing a major research project (e.g., a thesis or dissertation) in a semester or less. In the vast majority of cases, such a belief is unrealistic. Consider the many steps listed in the preceding paragraph. If you think you can accomplish all these things within 2 or 3 months, you’re almost certainly setting yourself up for failure and disappointment. We would much rather you think of any research project—and especially your first project—as something that is a valuable learning experience in its own right. As such, it is worth however much of your time and effort it takes to do the job well.

The most effective strategy we can suggest here is to *develop a research and writing schedule and try to stick to it*. Figure 4.5 provides a workable format for your schedule. In the left-hand column, list all the specific tasks you need to accomplish for your research project (writing a proposal, getting approval from the IRB and any other relevant faculty committees, conducting any needed pilot studies, etc.) in the order in which you need to accomplish them. In the second column, estimate the number of weeks or months it will take you to complete each task, always giving yourself a little more time than you think you will need. In the third column, establish appropriate target dates for accomplishing each task, taking into account any holidays, vacations, business trips, and other breaks in your schedule that you anticipate. Also include a little bit of slack time for unanticipated illnesses or family emergencies. Use the final column to check off each step as you complete it.

Using Project Management Software and Electronic Planners

Project management software is available both commercially (e.g., Milestone Planner, ToDoList) and as freeware that can be downloaded from the Internet (e.g., Freedcamp, GanttProject). You can use such software to organize and coordinate the various aspects of a research project. For example, the software will let you outline different phases of the project, the dates by which those phases need to be completed, the ways in which they are interconnected, and the person who is responsible for completing each task. This information can be displayed in graphic form with due dates and milestones highlighted.

Project management software is especially helpful when a research project has many separate parts that all need to be carefully organized and coordinated. For example, suppose a large research effort is being conducted in a local school district. The effort requires a team of observers and interviewers to go into various schools and observe teachers in class, interview students during study halls, and discuss administrative issues with school principals. Coordinating the efforts of the many observers, teachers, students, and administrators is a complex task that can be easily laid out and scheduled with project management software.

Task to Complete	Estimated Amount of Time Needed	Target Date for Completion	Task Completed (indicate with a ✓)

FIGURE 4.5 ■ Establishing a Schedule for Your Project

You might consider electronically organizing your schedule even if you don't expect your research project to be as multifaceted as the one just described. For example, you might use the *calendar* application that comes with your laptop or smartphone, or you might download day-planning freeware from the Internet (e.g., My Daily Planner, Planner Pro). With such applications you can insert electronic reminders that you need to do certain things on such-and-such a date, and you can easily revise your long-term schedule if unforeseen circumstances occur.

Keeping an Optimistic and Task-Oriented Outlook

In our own experiences, we authors have found that a concrete schedule goes a long way toward helping us complete a seemingly humongous task. In fact, this is exactly the approach we have taken when we have written various editions of this book. Make no mistake about it: Writing a book such as this one can be even more overwhelming than conducting a research project.

A schedule in which you break your project into small, easily doable steps accomplishes several things for you simultaneously. First, it gives you the confidence that you *can* complete your project if you simply focus on one piece at a time. Second, it helps you persevere by giving you a series of target dates that you strive to meet. And last (but certainly not least!), checking off each task as you complete it provides a regular reminder that you are making progress toward your final goal of resolving your research problem.

MyLab Education Self-Check 4.6

MyLab Education Application Exercise 4.3: Identifying Potential Risks and Research Plans

APPLICATION EXERCISES

Similar exercises are available on Pearson MyLab Education.

1. You are interested in finding out whether business-run childcare or independent childcare better prepares preschoolers for kindergarten. You choose only 5-year-old children entering kindergarten who have been in the same childcare arrangement for at least 6 months to participate. You decide to measure the preparedness for kindergarten by using standard kindergarten entrance exam questions and kindergarten CTBS (a standardized test) scores given during the spring of the school year.
 - i. What is the research topic or question?
 - ii. Is this a qualitative or quantitative approach to the research question?
 - iii. On reflection, you decide that you would also like to know if there are differences in the social skills and behavior of children in business-run childcare compared with independent childcare, but you are uncertain about exactly what skills and behavior you might measure. Describe the approach you would take to address this problem.
 - iv. In what important ways would the data collected during the first part of your study differ from the data collected during the later part of your study?
2. Dr. Smithson conducts a study comparing sleeping habits and work productivity of participants. He finds that participants who wake up no later than 6:00 a.m. are more productive workers than participants who wake up later than 6:00 a.m. In his conclusions, he asserts that people are more likely to be good workers if they wake up early rather than later.
 - i. Did Dr. Smithson's study have internal validity?
 - ii. He decides to do a second study. How can he ensure that his second study has high internal validity? Evaluate at least three possible options, and explain your reasoning.
 - iii. Imagine that Dr. Smithson instead wants to examine the perspectives of this group of participants on work-life balance and the sorts of resources and supports that enhance work productivity, and he designs and conducts a qualitative study. What approaches could he employ to enhance the credibility of the study?
3. The internal review board (IRB) is charged with identifying potential risks to participants; these are often risks that are unnoticed by the researchers as they plan a study. Identify concerns that the board might have regarding each of the following examples. Keep in mind that research risks include

physical, mental, and social risks beyond those found in typical daily activities.

- i. Samuel wants to investigate how children respond to negative feedback. In his design, children complete difficult puzzles. Some of the children are informed erroneously that they are worse than their peers at solving these problems. Others are told that they perform better than their peers.
- ii. Denise studies worker burnout in a CPA firm. She proposes to study workers firsthand by posing as a new clerical employee and working in an office facing many difficult issues for a year. Only in this way can she really

appreciate what it is like for workers “in the trenches,” and she feels she can get honest answers from workers with burnout.

- iii. As a kinesiologist interested in the relation between physical activity and academic performance, Danny proposes to limit the exercise of one group of children in his study while allowing the other group to exercise as they normally would.
- iv. Jane is a college professor interested in students’ beliefs about the typical instructional strategies of professors. As part of her ongoing research agenda, she requires students in her research methods course to fill out questionnaires.

FOR FURTHER READING

Planning Your Research Design

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ANSWERS TO THE CONCEPTUAL ANALYSIS EXERCISE “Identifying Scales of Measurement”:

1. This is a *ratio* scale, with an absolute zero point (i.e., no bacteria at all).
2. A country’s average temperature is an *interval* scale because an average temperature of 0—regardless of whether the temperature is reported in Fahrenheit or Celsius—still means *some* heat. (In the Kelvin scale, a temperature of 0 means no heat at all, but people typically don’t use this scale in reporting climatic temperature.) Amount of tourist dollars is, of course, a *ratio* scale.
3. The zip-code strategy for creating regions is a *nominal* scale, reflecting only category membership. Regions with higher zip codes don’t necessarily have “more” of anything, nor are they necessarily “better” in some respect.
4. This is an *ordinal* scale that reflects varying levels of quality. There’s no indication that the four categories each reflect the same range of quality, and a true zero point (no road at all) isn’t represented by the categorization scheme.
5. Don’t be misled by the absolute zero point here (an income of \$0 means no money at all). The ranges of income are different in each group: Group A has a \$20,000 range, Group B has a \$30,000 range, Group C has a \$50,000 range, and Group D—well, who knows how much the richest person in the study makes each year? Because of the unequal measurement units, this is an *ordinal* scale.
6. This is a tricky one. Despite the 0, this is *not* a ratio scale because virtually all students have at least a tiny amount of anxiety about tests, even if they respond “never” to all 25 questions. But the scale does involve an *amount* of something, so this must be either an ordinal or interval scale. Many psychologists would argue that the scores reflect an *interval* scale and would treat it as such in their statistical analyses. We authors don’t necessarily agree, for two reasons. First, some of the statements on the instruments might reflect higher levels of test anxiety than others, so a “4” response to one item isn’t necessarily the equivalent of a “4” response to another. Second, the 5-point rating scale embedded within the instrument (“never” to “always”) doesn’t necessarily reflect equal intervals of frequency; for instance, perhaps a student thinks of “sometimes” as being a broad range of frequencies of test-anxiety occurrence but thinks of “often” as being a more limited range. Thus, we argue that, in reality, the scores on the test anxiety instrument reflect an *ordinal* scale.