

## Conduct the Test Sessions

Having completed the basic groundwork and preparation for your usability test, you are almost ready to begin testing. While there exists an almost endless variety of sophisticated and esoteric tests one might conduct (from a test comprising a single participant and lasting several days to a fully automated test with hundreds or perhaps thousands of participants), in this chapter we focus on the guidelines and activities for conducting the classic “one-on-one” test. This “typical” test consists of four to ten participants, each of whom is observed and questioned individually by a test moderator seated in the same room. This method will work for any of the four types of tests discussed in Chapter 3: exploratory, assessment, validation, or comparison. The main difference is the types of objectives pursued, that is, more conceptual for an exploratory test, and more behavior oriented for assessment and validation tests. The other major difference is the amount of interaction between participant and test moderator. The early exploratory tests will have much interaction. The later validation test will have much less interaction, because the objective is measurement against a standard.

For “first-time” testers, we recommend beginning with an assessment test as it is probably the most straightforward to conduct. In Chapter 13, we discuss several variations and enhancements to the basic testing technique that you can employ as you gain confidence.

In terms of *what* to test, we would like to raise an issue previously mentioned in Chapter 2, because it is so crucial. That is, the importance of testing the whole integrated product and not just separate components. Testing a component, such as documentation, separately, *without ever testing it with the rest of the product*, does nothing to ensure ultimate product usability. Rather it reinforces the lack of product integration. In short, you eventually would like to test all

components together, with enough lead time to make revisions as required. However, that being said, there is absolutely nothing wrong with testing separate components as they are developed throughout the life cycle, *as long as you eventually test them all together*.

There is one exception to this rule. If you believe that the only way to begin any kind of testing program within your organization is to test a component separately as your only test, then by all means do so. However, you should explain to management the limited nature and value of those results.

## **Guidelines for Moderating Test Sessions**

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Before describing, via a series of checklists, the step-by-step testing activities of this stage, we would first like to cover the basic guidelines for moderating a test. These include guidelines on probing and assisting the participant, implementing a “thinking aloud” technique, and some general recommendations on how to work with study participants.

These guidelines are among the most important in this book for two reasons:

- This is the point in the testing process when you cannot only misunderstand what you are seeing, but you can very easily *affect* what is happening to the detriment of the participant or the product. Human perception is enormously affected by and predicated upon *preconception*. What we *think* we see is not necessarily what *is* happening. As proof of this phenomenon, after you moderate a test that is also being viewed by other observers, note the lack of agreement among yourselves about particular situations that were observed by all.
- These guidelines represent skills that are the hardest of all to teach via a book. As with any skill that has a strong flavor and grounding in interpersonal communication, moderating skills have a strong element of learning by doing and by practicing, rather than intellectual mastery. It takes many tests before one is really comfortable in moderating a test, and the best way to learn initially is to watch someone who knows how to do it.

Having now fulfilled our professional obligation to warn you to temper your expectations in mastering these skills and to proceed cautiously, let's discuss some of the basic guidelines for moderating a test.

### **Moderate the Session Impartially**

Take the attitude that you have no vested interest in the results one way or the other. Present the product neutrally (this does not mean you need to be

solemn), so that the participants cannot ascertain any preference on your part. Never indicate through your speech or mannerisms that you strongly approve or disapprove of any actions or comments offered by a particular participant.

React to “mistakes” or “wrong turns” in exactly the same way as you do to correct behavior. Never make participants feel stupid or inadequate (even inadvertently) by how you respond to their actions. If a participant is having problems, remember that it is the fault of the product. Period. Even if you say and do all the right things, participants will still blame themselves. If that happens, remind them of the value of their difficulties in understanding how the product actually works. Encourage them to freely explore areas without concern for “looking good.”

Encourage participants to focus on their own experiences and to not be concerned with what other people of similar characteristics might hypothetically think or need. However, if a participant has insight about how some other category of end users might react to some portion of the product, hear him or her out. For example, if a manager has information about how his or her subordinates might fare during the test, by all means encourage that input. This can help you to refine later tests for the category of end users that was mentioned.

## **Be Aware of the Effects of Your Voice and Body Language**

It is very easy to unintentionally influence someone by the way in which you react to that person’s statements, both verbally and through body language. For example, moving closer to someone indicates acceptance of what that person is saying, moving farther away indicates rejection. Raising the pitch of your voice usually signals agreement, while lowering it communicates the opposite. To prevent these biasing effects, make a special effort to be mindful of your voice and body language. The best way to improve your awareness of how you are affecting a session is to review the tapes of your session, noting how and when you inadvertently provided cues to a participant. Do not be too hard on yourself. Even the most experienced test moderator slips up occasionally.

## **Treat Each New Participant as an Individual**

While you know intellectually that each participant is unique, there is a very human tendency to be unduly affected by the performance and comments of the last person you observed. Make an effort to “clear the slate” psychologically prior to beginning a session. Remember to treat each participant as a completely new case, regardless of what previous results and sessions have shown. Try to simply collect behaviors without undue interpretation.

Leave time in the schedule for you as the moderator to take a break between sessions. If time is very tight, line up fewer participants rather than rushing many through in “assembly line” fashion. A seasoned moderator can handle four to six one-hour sessions in a day, depending on the complexity and demands of each session. Part of your data analyses will rely on your memories of participants and events. If you do too many sessions in a row, you stand to lose those helpful memories.

Remember, if you are testing five to ten participants, each participant represents a precious opportunity for your product. So favor quality over quantity, especially as it pertains to understanding cause and effect. If you do not understand why errors are being made, it is hard to come up with a solution.

### **If Appropriate, Use the “Thinking Aloud” Technique**

The “thinking aloud” technique is a simple technique intended to capture what the participants are thinking while working. To implement this technique, have the participants provide a running commentary of their thought process by thinking aloud while performing the tasks of the test. Have them express their confusion, frustration, and perhaps even their delight. When done well, the technique assists you to “read their minds.” It is especially effective for conducting early exploratory research (such as evaluating the participant’s mental model of a product), because it exposes the participant’s preconceptions and expectations about how the product works. While the technique has its share of advantages and seems to be an ideal means to capture all the implicit information of a usability test, it is not without some disadvantages. Therefore, do not use it indiscriminately. Following is a list of advantages and disadvantages of the “thinking aloud” technique.

#### ***Advantages of the “Thinking Aloud” Technique***

- You are able to capture preference and performance information simultaneously, rather than having to remember to ask questions about preferences later.
- The technique can help some participants to focus and concentrate. They fall into a rhythm of working and speaking to you throughout the test.
- You are constantly receiving early clues about misconceptions and confusion before they manifest as incorrect behaviors. These early clues help you to anticipate and trace the source of problems more easily.
- Participants can reveal how they are thinking about doing a task and why things work or don’t work for them.

### ***Disadvantages of the “Thinking Aloud” Technique***

- Some participants find the technique unnatural and distracting. Working with these participants may require you to encourage them to “think aloud.”
- Thinking aloud slows the thought process, thus increasing mindfulness. Normally, this is a good effect, but in this case it can prevent errors that otherwise might have occurred in the actual workplace. Ideally, you want your participants to pay neither more nor less attention to the task at hand than they normally would.
- Regardless of personal styles, preferences, and other considerations, it is just plain exhausting to verbalize one’s thought process for very long.

### ***How to Enhance the “Thinking Aloud” Technique***

If you decide to use this technique, following are some ways to improve its effectiveness.

- **Avoid using it for very short or pointed tests where the unusual aspect of the technique does not have time to wear off.** For example, Jeff was once testing whether or not participants noticed and understood one specific label on a hardware product. That objective comprised the entire test, and each session lasted for all of 10 minutes. He found that thinking aloud heightened the participant’s awareness of a task that was usually performed on “autopilot.” The very act of saying, “Now I’m loading the paper. Now I’m pulling out the tray,” made the process unusually deliberate. Consequently, he stopped using this method after the second participant, because it was simply too artificial in this case.  
Fortunately, for most people thinking aloud becomes rote over time, and the participant’s awareness returns to the less heightened, more customary state after a short period.
- **Demonstrate the technique first, so that participants feel less self-conscious.** Demonstrate a few seconds of thinking aloud while performing some unrelated task to make sure that the participants get the hang of it. Then let them try it and ask you any questions if they need to.
- **Do not force the technique if you encounter strong resistance.** If the participants resist adopting the technique by ignoring your cajoling and prodding to think aloud, or simply saying it is too distracting to them, take the hint. Do not push the technique, but instead probe as needed.

- **Pay attention to where participants become quiet.** This can indicate that they are concentrating on solving some problem. Rather than nudging someone to tell you what she is thinking, it may be better to note the incident and ask about it later.
- **Acknowledge that you are listening to your participant's comments by periodically repeating comments back and following up.** Reinforcing a behavior causes it to reoccur. Therefore, let the participants know you hear them and are writing down their comments.
- **Practice meaningful silences and patiently waiting.** It can be good in some situations to observe a behavior or ask a question and then wait. Count to 20 or 30 before asking for clarification. Often in that time, the participant will complete processing his thoughts and will begin to explain what he's thinking. It's almost always better if the participant verbalizes unprompted.
- **Consider a different technique entirely.** Test two participants together and encourage them to think aloud to each other. For more on this technique, see the variations on the basic technique section presented in Chapter 13.

## **Probe and Interact with the Participant as Appropriate**

If you are conducting a true experiment or even a validation test, your interaction with the participant should be minimal. On the other hand, interaction, especially for a test occurring early or midrange in the development cycle, is mandatory in order to understand fully the “why” behind performance and preference. Interacting with the participant appropriately is a difficult skill to master and should not be undertaken lightly. In fact, it is one of the more advanced skills that a usability professional should possess. Even a sigh at the wrong time can influence results and render all or a portion of the results useless.

On a project with a tight schedule, where many design decisions hinge upon the test results, it is important to explore all ambiguous actions and situations. You haven't the luxury of letting things unfold without intervention.

If this is your first test, then proceed cautiously. Feel your way gradually and learn from your mistakes. Err on the side of interacting too little. If you accidentally divulge information, simply keep going, noting the point in the test where this occurred.

Following are general guidelines that present the basics of probing and interacting. Keep in mind that there is no substitute for sensitivity and practice. When probing:

- **Don't show surprise.** Keep in mind that you are creating an atmosphere in which it is perfectly acceptable and in fact expected to make

mistakes. Therefore, reacting with incredulity may destroy that atmosphere because it puts a participant on the defensive. For example, suppose a participant accidentally destroys the file on which he or she is working. Rather than saying anything, let the consequences speak for themselves. If the participant becomes unduly alarmed, simply say something like, “How close was that to what you expected?” and give the participant a chance to recover.

Of course, your calm interjection of, “Tell me what is happening. Is there some problem?” while the participant is inadvertently destroying an hour of work often makes for humorous, incongruous situations, but it is usually best to play this situation “straight.” Do not immediately let on that you are aware of what has happened. Even comments in jest, such as, “I’m sure there are more files where those came from” are liable to have a negative effect. (As an aside, set up the test so that files are never really deleted, and can easily be restored. You might need to begin again at the point where the file destruction occurred.)

- **Focus on what the participants expected to happen.** When the participants have obviously done something different from what was expected or are lost or confused, ask them what they expected to happen in order to understand the root cause of the situation. Do not feel the need to describe in any way what *you* expected to happen. Simply describe the events that occurred as if they were everyday occurrences and leave off any indication of expectation. Do not imply that anything is wrong necessarily. Do not imply “correct” results.
- **Act as a mirror to reflect back what the participants are saying and help them to express their thoughts in a useful way.** Do not say too much and do not volunteer information unless it is an administrative issue or logistical point. Don’t interpret what you think happened. If someone is hopelessly stuck and needs a hint for the test to go on, then it is fine to offer assistance. Otherwise, you should not say anything. Do not imply to the participants that there is any right or wrong answer, or that their statement is similar or different from other participants. Most people do not want to seem different from others, so your comments could affect what they say.
- **Do not always ask direct questions.** The real challenge with probing is the subtlety required. You simply cannot always ask direct questions, especially if the participants sense that you are affiliated with the product in any way. Direct questioning of the type, “How did you get all the way over to that screen?” will tend to make the participants extremely defensive as if they were being grilled. A better approach is to ask, “How’s it going? How close do you feel you are to completing

the task?" Alternatively, take the blame yourself by saying something like, "I missed what just happened. Could you tell me?"

Ask neutral questions rather than "loaded" ones that imply an answer. An example of a loaded question is, "Most people find this feature easy to use. How about you?" A more neutral phrasing would be, "Is this feature easy or difficult to use?" or "What were you thinking when you used that feature?" (Of course, there is a lot to the delivery of the question, as well. So be careful about what your attitude or emotions might betray even with neutral, open-ended questions.)

Ask questions that do not imply right or wrong answers. Focus on the participants' preferences and the value they place on features and functions. Some additional examples of neutral questions are:

- What are you thinking right now?
- You seemed surprised/puzzled/frustrated, what happened?
- Exactly how did that differ from what you expected to happen?
- Would you expect that information to be provided?
- How close was that to what you expected?
- **During the session, limit your interruptions to short discussions.** Save longer issues for the debriefing session. Too many and too lengthy interruptions disrupt the thought process of the participants and affect their performance. Jot down topics on your data collection form concerning what you want to ask questions about. Then ask them during the debriefing session. This method is preferable to constantly interrupting the participants while they are working. Keep your probes short, sweet, and to the point.
- **Probe in response to both verbal and nonverbal cues from the participants.** A good moderator pays attention to the reactions of the participants at all times. Very often, participants will make very subtle responses to what they are seeing or doing. A raised eyebrow, a biting of the lower lip, all can indicate a reaction to the product. You can take advantage of those moments as an opening to the thought process or feelings of the participants. For example, if a participant starts frowning or sighing while performing a task, you might want to probe with, "You're frowning. Tell me what is happening." or "What are you thinking right now?" So, read the body language of the participants. This is one of the main reasons the authors favor being in the same room as the participants. *There is so much nonverbal implicit information that the participants express that is hard to read from another room.*
- **Look for opportunities to understand the rationale for a particular behavior or preference.** If someone expresses that a particular aspect

is interesting or valuable or problematic, however casually, probe to find out why. If a participant mentions other ways of performing or designing a function, ask for examples of what he or she means.

- **Handle one issue at a time.** It is very easy for participants to become sidetracked on tangential issues. Focus on the task at hand. Avoid venturing off into several issues at once or revealing information that is yet to be covered. It is simply too distracting. Make a note to cover the other issues later.
- **Don't problem solve.** Do not use the testing time to fix problems that are discovered. The vast majority of problem resolution should wait until after the participants leave for the day. This is not to say that you cannot ask the participants how they *would* have designed a feature. Obviously, that in itself can be revealing and sometimes helpful.

More often than not though, participants are neither qualified as designers, nor are they aware of the constraints of the project. So their suggestions may be highly impractical and distract you from what they are more qualified to do than anyone else — reveal what they can and cannot do and what they like and do not like.

If the participants offer design suggestions, do not discourage them. Write down the suggestions whether they have merit or not. But, if they are clearly impractical, do not waste valuable time exploring the ideas at length.

## Stay Objective, But Keep the Tone Relaxed

Unfortunately, seriousness of purpose is often equated with taking oneself seriously. Too much solemnity in the interest of being serious inhibits people and limits the amount and quality of information that you gather. Remember that you are dealing with people who are performing with two or three sets of eyes (or more) on their every move. Humor can counteract their self-consciousness and help them to relax. If they are having fun, they are more apt to let their defenses down and tell you what is really on their minds.

Humor in this instance is the type that keeps things “light” and on an even keel. It is perfectly appropriate to laugh along with the participants when they find something humorous about the product, or to be nondefensive about the product's flaws. Of course, be sure to laugh *with* and not *at* your participants.

## Don't “Rescue” Participants When They Struggle

There is a tendency to jump in and help participants too quickly when they become confused or lost. The authors have noticed this especially of inexperienced moderators. The tendency to rescue is due to our natural

empathy and even embarrassment when watching someone struggle. Instead, at those times especially, encourage participants to verbalize their feelings.

By not letting the participants struggle, you lose the opportunity to understand what happens when people get lost and how they recover. Very often participants will venture into unexplored areas and open up entirely different issues. If you are using a “thinking aloud” technique (see the section “If Appropriate, Use the ‘Thinking Aloud’ Technique” later in this chapter), remind the participants to keep talking. If you have not set up such a technique beforehand, then probe the individual participants who are having difficulty to find out what caused the difficulty.

To counteract your tendency to rescue, remind yourself why you are there and why you are testing. It is better to watch the participants struggle now than to receive calls on the company’s “hotline” later. Also, there is absolutely no replacement for a struggling participant to convince a skeptical developer that there actually *are* problems with his or her beloved product.

You may feel better if, at the very end of the session there is time, you take a moment to correct or teach something that you saw the participant struggling with, especially if she will return to a job or task in her real life that involves the situation you included in the test. It’s a good way to close the session on a positive note.

## **If You Make a Mistake, Continue On**

Do not panic if you inadvertently reveal information or in some other way bias the session. Just continue on as if nothing happened. At worst, you will invalidate only a small portion of the test. At best, your comment or action will not even be observed by that participant.

There are many possible ways that you can inadvertently reveal information. If you have conducted dry runs of your protocol and pilot tested with a user, the chances of something in your script revealing some bias is minimal. The mistakes typically happen in the un-scripted parts of the test, such as when you ask follow-up questions or ask participants to reflect on what they have done so far. Especially because you as the test moderator know the “right” answers, as you ask probing follow-up questions or if you decide to use graduated prompts (see Chapter 13), it can be very easy to lead the participant to the correct next step when what you want is for him or her to discover it as part of the problem solving process.

## **Ensure That Participants Are Finished Before Going On**

If you are verbally presenting tasks to a participant one at a time, wait a few moments after you see the current task completed before moving on to the next one. Very often, especially if a participant is unsure of a task, there is

a moment of indecision after completing the task when a participant is not sure if he or she has performed correctly. If you jump in too soon, because you notice the participant is finished, you are confirming that he or she has performed correctly and undercutting that moment of indecision. If you pause for a moment, the participant may actually redo the task incorrectly or do something else interesting or informative. If the participant appears to you to have stopped, is stuck, or you feel he or she may be finished, count silently to 20 or 30 before you intervene. At that point, you might say, “Tell me what you’re thinking,” or “How close do you feel you are to completing the task?”

Be especially careful if you are sitting close to the participants, because if they notice you making a mark on your data collection sheet, that can signal them that they have completed a task, even if they are not sure. The best way to prevent this problem altogether is to have the participants signal when they are finished, as part of the test protocol. This will help you to resist “rooting them home.”

## Assist the Participants Only as a Last Resort

Whereas probing is the act of soliciting information from the participants and is often an integral part of the test design, assisting the participants to complete a task is invasive and should only be done when absolutely necessary. Let’s be very clear about this. *As soon as you assist, you are affecting the test results in a major way.* If you are tracking the number of tasks performed correctly, you need to differentiate between those that required assistance and those that did not. Never lump both of those categories together. As much as you want to avoid assisting the participants, there are times when it is unavoidable. Following are some suggestions for when and how to assist the participants during a test.

### ***When to Assist***

- **When a participant is very lost or very confused.** Obviously, assistance at the first sign of difficulty is not advised. If you can, wait until the participant has gone beyond the time benchmark for the current task before providing assistance or offering a hint. At that point, you have already scored the task as “unsuccessful” anyway, and your assistance can no longer affect that compilation.
- **When performing a required task makes a participant feel uncomfortable.** For example, the test may require the participants to perform an action that they ordinarily cannot bring themselves to do, such as deleting a file without having a backup system in place. (We’re serious. Certain actions are so deeply ingrained that people refuse to do

them even if they know it's a test.) Or, participants may feel that the task they are performing is just not realistic and requires some additional background information or context. In such cases you may have to provide a more in-depth explanation.

- **When a participant is exceptionally frustrated and may give up.** People have their own thresholds of frustration, after which they will simply stop working. On the other hand, periods of frustration are often gold mines of information about the product's weaknesses, and much can be learned from letting a participant struggle. It is up to the moderator to gauge a particular participant's frustration level before jumping in. The key here, in terms of getting the most information, is identifying the frustration level at which the participant will give up and not exceeding it. Knowing when to jump in comes through experience. Letting a participant know you empathize with him or her and encouraging the participant to hang in there can help extend the time the participant will stay with a task before giving up.
- **When the product is in a "before-final" state and you need to provide missing information to the participants.** Almost always, usability testing occurs before an interface or document is complete. This requires the moderator to fill in missing information that ordinarily would be there. For example, an error message should have appeared on the screen but did not. As moderator, you should provide the appropriate message and continue on.
- **When a bug occurs or a participant's actions cause a malfunction that requires repairs.** Very often, making repairs to a product in the middle of a test involves actions that the participant should not see because the repairs could reveal crucial information or procedures that the participant is not yet privy to. If a repair is needed, the moderator must not only intervene, *but must remove the participant from the test room*. Have someone else take the participant to a predetermined waiting area, if you need to help with repairs to the product. Be sure to tell the participant that he or she has done nothing wrong, and that it is the tenuous nature of the product at this stage of development that caused the problem. Conveying the information is important because participants may become tentative if it appears that they have caused damage.

### ***How to Assist***

Having identified those times when it is appropriate to assist, the next order of business is discussing *how* to assist. There are some important considerations that will minimize the effect you may have on the overall test results.

- **NEVER, EVER blame the participants, even indirectly, for a problem.** The fastest way to lose and/or bias a participant is to blame the participant for problems during a test. Just as the “customer is always right,” so is the adage, “mistakes are always the fault of the product.” Do not lose your cool and react negatively even in the most trying of circumstances (e.g., when a participant’s actions crash the machine or cause alarms to sound).
- **Clarify the concerns of the participants.** Ask questions that let the participants express what is happening and what, if anything, they find confusing. However, if they say that they are stuck, do not immediately take that as permission to show them what to do. You *want* to see what the participants do when they reach this point, not discover how quickly you can help them. Often, they make horrific detours (from the viewpoint of the consequences) and it is invaluable to see that take place. Do everything you can to avoid telling them *how* to do something.
- **Gradually provide more revealing hints to get the participants past an obstacle, rather than revealing everything all at once.** If the participants are lost or confused, provide them with hints, rather than “spilling the beans” all at once. Providing hints lets you ascertain the minimum amount of information required for error recovery and helps the development team design solutions later. Perhaps telling the participants to reread an instruction is all they need. For more on this technique, see Chapter 13.
- **Be aware of the tasks to come and the effect your comments could have on the performance of the participants.** In the course of helping the participants when they become confused and cannot continue, it is very easy to inadvertently reveal information that helps them to perform tasks that appear later in the test. Therefore, keep the rest of the test in mind when assisting on the current task. When in doubt about how much to reveal, the best thing is to err on the side of saying too little.

## Checklists for Getting Ready

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Having completed a review of the basics of moderating, you are now ready to begin the actual process of testing. Because of the myriad details to remember and coordinate when testing, it helps immensely if you develop a series of checklists to guide this process. The lists prevent you from forgetting any important points. The authors have included three generic lists to get you

started. Over time, you probably will create customized versions that work well for your situation.

- **Checklist 1**, to be used a week or so before the test.
- **Checklist 2**, to be used about one day before the test.
- **Checklist 3**, to be used during the day of the test.

These checklists begin after all the preparation work has been accomplished. Use them as a starting point from which to create your own customized lists that include the specifics of your own testing situation. Your customized checklists should include those places in the test where you need to be especially observant or where you may even interact with each participant in some way. For example, one of your checklists might include:

- Places in the test where you need to mimic a realistic function that does not yet work on the software.
- Particular problematic sections of a web site where you want to ask questions while a participant is working.
- A reminder to record the search keywords used or count the number of times participants return to the beginning of a task path.

Now let's move through the generic checklists one at a time and discuss each item.

## **Checklist 1: A Week or So before the Test**

The point here is to know what you're testing and to feel comfortable that your session script matches up with what you want to happen in the testing room. The checklist for the week before the test is shown in Figure 9-1.

### ***Take the Test Yourself***

Take your own usability test and look for design flaws. Try to assume the mind set of your prospective users. Take timings to ensure that the test is achievable in the time allotted. Make sure to use your own questionnaires and read them carefully. Revise the test before continuing.

#### **Checklist 1: A week or so before the test**

- Take the test yourself
- Conduct a pilot test
- Revise the product
- Check out all the equipment and the testing environment
- Request that, if possible, the product be "frozen" for the test period

**Figure 9-1** Checklist for the week before the test

### ***Conduct a Pilot Test***

After you have made revisions based on taking the test yourself, conduct a pilot test. Ideally, you should use a “real” participant, perhaps someone who is on the lower end of the expertise scale for what you are doing in this test. Doing so should give you a good feeling for how long it will take most users to do tasks (a beginner being more likely to take longer). Then you can adjust your plan accordingly. In a pinch, using internal participants (employees of your company) whose background is similar to your end users can work for a pilot session. Conduct the entire test, including reading the orientation script and providing the test scenarios. Practice the various data collection techniques you will be using. Instruct the participants to fill out all questionnaires that are part of the test.

The importance of conducting one or more pilot tests cannot be overstated. Do not cut this step short, or you will find that your first one or two real participants will be used “to get the bugs out” of your testing process, essentially acting as the pilot test. Not only does pilot testing allow you to practice, it enables you to refine your test plan as a result of having discovered that certain tasks were not applicable, that questionnaires were misunderstood, and that other areas or sections you had not thought to explore could benefit from testing.

### ***Revise the Product***

Yes, revise the product or prototype or whatever it is you are testing. Do not be surprised when you identify areas of the product that obviously require fixing, based on the pilot results, without the need for further confirmation by the real test. After all, why waste valuable time testing those features and functions that you know are broken? Uncovering product problems is one of the reasons why conducting a pilot test well in advance of the usability test makes so much sense. If you should discover problems, you have time to correct them before the usability test.

A note of caution is in order though. Be careful about making too many product changes just prior to the start of the usability test, especially software or firmware changes. Too many changes without adequate QA may cause the product to crash, and you run the risk of jeopardizing the usability test altogether. Experience has taught us this the hard way. Against Jeff’s better judgment, he once allowed a programmer to make changes to the product right up to the day before the usability test. When test time arrived, the product was buggy and would not work longer than five minutes without crashing. Needless to say, the test had to be canceled and rescheduled for a later date, and the team lost a window of opportunity in a tight schedule.

Having learned this lesson, we now take a much more conservative approach to allowing product changes before the usability test. Make sure to leave

adequate time to debug and test the changes so that the chances of a product crashing during the test are minimized.

### ***Check Out All the Equipment and the Testing Environment***

If you will not be using an area dedicated solely to testing, check that the room you will be using is available for the entire time. Also make sure that the equipment you have reserved, leased, or borrowed is available and in working order. This includes everything from cameras to recorders to computers.

### ***Request a Temporary “Freeze” on Development***

If at all possible, development should be stopped during the period in which you conduct usability test sessions. Any changes may affect the participant tasks or the scenarios for the test. In addition, a “freeze” stabilizes the product to a known set of bugs that you can script around, if needed. However, the development team may decide that it must go on during the study. In that case, ask if a version of the product can be made available that isolates it from development or other types of testing. That way, you will have a snapshot version that is manageable for you, consistent among participants, and can still be used as a source on which to base findings.

## **Checklist 2: One Day before the Test**

Now you line up all the ingredients you will need to have in place or at hand during each session (Figure 9-2).

### ***Check That the Video Equipment Is Set Up and Ready***

If your camera or recording software does not provide written titles or a timestamp that would identify the recording, acquire an erasable white board or slate to hold up in front of the camera to record the participant number and date. When the recording is complete, simply identify the participant number and date on the video label. In addition, check that you have enough media to store the recordings.

#### **Checklist 2: One day before the test**

- Check that the video equipment is set up and ready
- Check that the product, if software or hardware, is working
- Assemble all written test materials
- Check on the status of your participants
- Double-check the test environment and equipment

**Figure 9-2** Checklist for the day before the test

If you are storing video and audio electronically, determine a file naming convention to use as you save each sessions recordings.

Check for power sources in the room you will be using, and ensure that your electrical cords are long enough. If you will use battery power instead of AC, ensure that you have plenty of fresh or recently recharged batteries available.

### ***Check That the Product, if Software or Hardware, Is Working***

Remember Murphy's Law here. It never fails. Make sure that it is installed or available exactly as you would like it for the session. Try it out; don't just log in or power up. Also check that any monitoring equipment, such as data logging programs and stopwatches, is working correctly.

### ***Assemble All Written Test Materials***

Assemble all written test materials including scripts, test scenarios, questionnaires, and data collection forms. Be as organized as possible, because you will be shuffling large amounts of paper during the test. Consolidate each participant's forms into an individual packet that you simply distribute prior to that person's session. Set up a filing system for yourself to store all the paper after each session, along with checklists to make sure you have received everything back that you should have. Remember, the less you have to think about logistics, the more you can concentrate on watching the test with undivided attention.

### ***Check on the Status of Your Participants***

If you are handling arrangements for the participants yourself, call the first wave of participants to verify that they will be participating. Continue to do so each day as the test progresses. If an agency or a colleague is handling the participant arrangements, then verify that everything is set up and a fallback procedure is in place in case someone does not show up.

### ***Double-Check the Test Environment and Equipment***

Murphy's Law returns. Power everything on, run a short shakedown test, and make any final adjustments.

## **Checklist 3: The Day of the Test**

Finally, you organize yourself and your observers and step through one session with one participant after another. Figure 9-3 shows the checklist for the day of testing.

**Checklist 3: The day of the test**

- Scan your customized checklist
- Prepare yourself mentally
- Greet the participant
- Have the participant fill out and sign any preliminary documents
- Read the orientation script and set the stage
- Have the participant fill out any pretest questionnaires
- Move to the testing area and prepare to test
- Start recordings
- Establish protocol for observers in the room
- Provide any prerequisite training if your test plan includes it
- Either distribute or read the written task scenario(s) to the participant
- Record start time, observe the participant, and collect all critical data
- Have the participant complete all posttest questionnaires
- Debrief the participant
- Close the session
- Organize data collection and observation sheets
- Debrief with observers
- Provide adequate time between test sessions
- Prepare for the next participant

**Figure 9-3** Checklist for the day of testing***Prepare Yourself Mentally***

Mental preparation sets the stage for how open, alert and unbiased you are during the test. Let go of any expectations about test results. Remain as open as possible. The best analogy the authors have seen for the appropriate attitude when conducting a test comes from the Zen tradition, which speaks of “Beginner’s Mind.”

“Beginner’s Mind” in that tradition refers to the discipline of always remaining in the present moment and not taking on the “all-knowing” attitude of an expert. In the context of testing, it describes the attitude of someone who knows very little about the product and has very few preconceptions. This is especially important in the case where it is necessary (but not recommended of course) for you to test your own materials.

- **Review the problem statements and overall test objectives**, which may have become obscured while you handled all the details. Remind yourself of the main issues you will be covering and on which you will focus during the usability test.
- **Once all preparation is complete, prepare yourself and your attitude.** Have confidence in the ability of the testing process to expose the product’s deficiencies. Rather than embracing all the predictions of the “experts” on the development team, take the attitude that reactions of participants are closer to how the product will fare when released. Keep that in mind throughout the entire process to guard against becoming defensive when results are not what you expected.

- **Create an open, nonjudgmental environment.** This guideline is listed under mental preparation because it is less tangible than the physical environment that you create. However, it is every bit as important. It has to do with creating an environment in which participants feel completely at ease, even if they make mistakes. If the importance of creating an open, nonjudgmental environment is not immediately obvious, then recall how you personally have felt in the past when performing even familiar tasks in front of an audience. Participants should not feel the slightest sense of being judged or of having to obtain any particular types of results. Once they do, it affects their behavior and introduces a bias.
- **Be curious about what participants do and why.** Curiosity is simply the natural result of “Beginner’s Mind.” Do not be defensive about their actions.
- **Expect the unexpected.** *Every* test will result in the unexpected. If this were not the case, there really would not be much reason to conduct a usability test. Remember that it may be necessary for you to deviate from the original test plan should a participant uncover important issues that no one had previously considered and that require exploration.

### ***Greet the Participant***

Meet the participant or have the participant met outside the testing room in an area that is private, accommodating, and, if possible, stocked with refreshments. Relax, introduce yourself, make small talk, and help the participant feel at ease. Acknowledge and try to understand any nervousness the participant may feel. Perhaps there is something the participant was told that was upsetting and that you can address. If the usability test revolves around new or unfamiliar technology, the participant is very likely to feel especially nervous or intimidated.

Treat the participant with respect. Show appreciation for his or her willingness to come in and provide this research for you. It is important to guard against projecting an “ivory tower” or “think tank” mentality where this “poor little participant” is being allowed to enter.

Always begin by asking the participant to tell you what he or she was told about today’s session by the recruiting person or agency. Often, you will find that the participant has been given information that is biasing and can seriously affect the test session. You need to know that in order to rectify it.

For example, Jeff conducted a test for which he used a temporary agency to recruit the participants. He discovered that when the participants expressed concern about the nature of their assignment, the agency’s standard reply was, “Don’t worry, even a baby can do it.” Talk about getting off on the wrong foot!

This answer is a serious problem because it sets a false expectation about the ease of a product's use. During the test, encountering the slightest difficulty will confirm (in the participant's mind) that he or she is an absolute moron. As a result, the participant tries too hard and performs unnaturally and under extra pressure. If you find that your participants are being prepped in an unprofessional manner by an agency, you need to contact the offending party before the next test session and instruct them about what to say. Do not simply ignore the situation.

### ***Have the Participant Fill Out and Sign Any Preliminary Documents***

These documents, as discussed in Chapter 8, include:

- Background questionnaire
- Permission to record
- Nondisclosure document

### ***Read the Orientation Script and Set the Stage***

Yes, make sure to *read* the orientation script aloud to the participant each time you start a session. Explain and demonstrate any special techniques you will be using, such as “thinking aloud.” Once again, relate to any nervousness on the part of the participant, and if it is excessive, do not just jump into the test, but see if there is a tangible cause. Clear up any misconceptions that may still exist about what is expected of the participant. Emphasize that it is *impossible* to really make a mistake. You can take your script sample orientation scripts in Chapter 8.

### ***Have the Participant Fill Out Any Pre-Test Questionnaires***

These pre-test questionnaires are intended to gather product-related information and not just demographic data about the participant. Unless there is a need for the participant to view the product first (possibly to give first impressions), the questionnaire can be filled out in the waiting area. Chapter 8 discusses why and how to develop a pre-test questionnaire.

### ***Move to the Testing Area and Prepare to Test***

If observers are present in the room, make brief introductions. Explain the setup of the room to the participant, and let him or her see the equipment if you feel it is appropriate. Never avoid the fact that the participant will be observed and recorded, even if he or she is very nervous. It is not ethical, and it will make things worse if the participant finds out later.

**NOTE** You may also tour the testing area while reviewing the orientation script, whichever seems more natural to you.

Position yourself and the participant according to the environment you have previously set up. Assuming that you are going to be working adjacent to the participant, *never set up in front of or directly behind a participant unless you are well beyond the range where the person will feel your presence without being able to see you.* Those locations, front and directly behind, create a sense of anxiety in most test participants and tend to accentuate a sense of self-consciousness. Your best bet is to be slightly behind and to the side, where the participant can just see you out of the corner of his or her eye. If you are too close, the participant will be concerned with what you are doing and may be distracted from the tasks at hand. The same holds true generally for additional observers — keep them away from the front and directly behind unless they are at a considerable distance. Because we strongly encourage you to have observers view the test sessions, more explicit guidelines for managing observers during a test are in the section “Debrief the Observers” later in the chapter.

### ***Start Recordings***

This is so easy to forget! (Even very experienced practitioners forget.) Put a prompt for yourself, or embed some keyword in your introduction to the session to remind you to start the software and or other equipment recording the session.

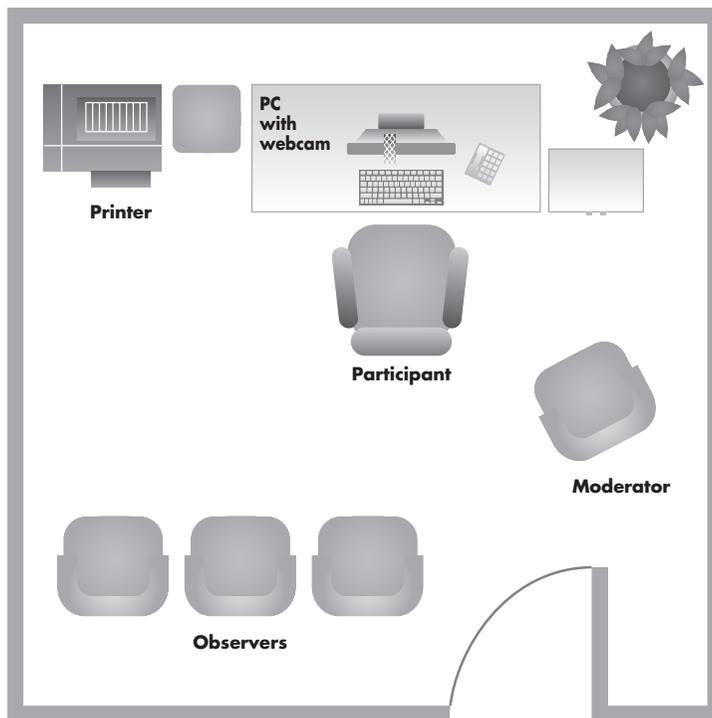
### ***Set Decorum for Observers in the Room***

Many usability researchers prefer to have observers watch the test through electronic observation from another room or through a one-way mirror. However, because some readers will not have the luxury of either option, yet will want to encourage direct observation, it is important to plan ahead how observers should behave. You want to reap the benefits (observers are more likely to abide by the test results if they have seen the test in person) and avoid the negative aspects (biasing the participant). The moderator must feel comfortable and capable of controlling the proceedings. If you have not been able to brief in-room observers on how they should behave before now, this is the time. See Chapter 8 for an example of guidelines for observers.

- **Introduce everyone to the participant.** Even if the observers will be well away from the participant during the test, but in the same room, it is still common courtesy to introduce everyone to the participant. This helps to make the participant feel less self-conscious, less like a guinea

fig. First names are fine, titles are unnecessary, as are project assignments. For example, do not introduce an observer as, “Joe Schmidt, who wrote the user manual for the software you’ll be working with today.” It is an unusual participant who can openly criticize a user manual while the author watches from the other side of the room. An introduction of “This is Joe Schmidt” is sufficient. If the participant asks, just say that the observers are interested in the outcomes of the test.

- During the testing session, the observers should be as inconspicuous as possible, completely out of the sightline of the participant. The observers should be well away from the testing station, at least 10 to 15 feet. (If the room is not big enough to allow this much of a buffer, then limit the number of observers so the room is not crowded.) While this may interfere with their ability to see exactly what is happening, anything closer runs the risk of a group of people hovering over the participant like mother hens. If it is a very large room, have the observers watch the proceedings from a television monitor that is displaying the video camera feed, as shown in Figure 9-4. In that way they can remain in the room without crowding the participant or affecting the test.



**Figure 9-4** Monitoring configuration with in-room observers

- **During the session, the observers should not make any comments or ask questions.** The moderator should control the session with no interruptions from the observers. The only exception is if there are technical problems and the session must be interrupted or revised. Observers should jot down important topics and wait for the debriefing session to discuss them, not bring them up during the test.
- **During the debriefing, observers can be asked to join in the discussion.** The decision to have observers participate in the debriefing is the call of the moderator based on his or her confidence at being able to control the process. Especially where observers can provide an added dimension to the moderator's questioning (e.g., when products are targeted toward an extremely specialized audience), it is valuable to bring them into the process. Also, observers may raise concerns specifically related to their own component (e.g., the person who is responsible for the text messaging aspect of a cell phone may have very specific questions about getting and replying to text messages). For pointers on developing a debriefing guide, see Chapter 8. For more on how to conduct debriefings with participants and observers, see Chapter 10.

Structure the debriefing session beforehand to minimize confusion to all concerned. The moderator should begin the debriefing and complete his or her line of questioning completely. At that point, have the observers join in and ask whatever questions they like, or ask the participant to expand upon subject matter already discussed. Be sure to prevent a sense of "shooting" questions at the participant from every direction, and when necessary, intervene to stop that from happening.

- **The moderator has final say on observers in the room.** Try it out with the express agreement that the moderator will ask the observers to leave if the participant is being affected by their presence.

One final word here on observers. If the observers will only be attending a limited number of sessions, it is important to remind them to withhold final judgments until the test report is complete or at least until a preliminary presentation is made to them by the moderator who has viewed *all* the test sessions. Rushing to judgment is one of the most common tendencies of observers who view a limited number of test sessions.

### ***Provide Any Prerequisite Training If Your Test Plan Includes It***

Prerequisite training may be required to acclimate the participant to your product prior to the test or to bring the participant's expertise to a predetermined criterion. Prerequisite training might involve anything from a simple "20 minute tour" of the product to a full-day, in-depth session. In either case,

the appropriate time to administer prerequisite training is after introductions and just prior to the actual test.

### ***Either Distribute or Read the Written Task Scenario(s) to the Participant***

If this is a test with little or no interaction required between the participant and the moderator, then provide written task scenarios for the participant. Because a very long list of tasks can be intimidating, you may want to present the scenarios in phases. After the participant completes one phase, simply present the next one. If the test is more exploratory in nature and there will be much interaction with the participant, then consider reading the scenarios one at a time to the participant or have the participant read the scenario out loud before beginning the task. This method provides better control of the pace of the test.

### ***Record Start Time, Observe the Participant, and Collect All Critical Data***

Finally, you are ready to begin collecting information. Everyone should be ready to go. Using your data collection instruments, begin to moderate and write down test events.

### ***Have the Participant Complete All Post-Test Questionnaires***

Once the main testing has been completed, take a short break if it is appropriate. Then, without further discussion of the test, have the participant fill out all written questionnaires. It is important to do this prior to any discussions with the moderator or other observers to minimize any biasing effects. For information about why and how to develop post-test questionnaires, see Chapter 8.

### ***Debrief the Participant***

Take a moment to peruse the questionnaires that the participant has just completed in order to ascertain if there are additional issues to raise during the debriefing. Skim through your notes to see if there are spots where you had questions that you want to follow up on with the participant before closing the session. A more in-depth discussion of debriefing can be found in Chapter 10.

### ***Close the Session***

Thank the participant, provide any remuneration, and show the participant out. If the participant is not being paid, it is always appropriate to give a token gift at the very least. Leave the door open for contacting the participant later to clarify any questions that may arise about the session.

Ask observers to write down the three most important things that happened in the session.

### ***Organize Data Collection and Observation Sheets***

Gather any data collection forms, comments, and so on, from other observers. Place all the information from the just-completed session into one file folder. If you are using an automated data collector, make sure the data is backed up and secured on disk.

### ***Debrief with Observers***

Ask each observer to read the points he or she wrote down about the most important things that happened in the session. Record this information in some way, either by continuing the video recording, making an audio recording, writing down what observers say, or gathering their “top-threes” on sticky notes. You can conduct this exercise within a few minutes. Doing so helps you see what observers are looking for and can help you focus your time later when you analyze and report the results. For more about debriefing with participants and observers, see Chapter 10.

### ***Provide Adequate Time between Test Sessions***

Do not rush yourself. Make sure you have some time to clear your mind between sessions. Moderating a test requires immense concentration. Pace yourself, especially if you will be testing for three, four, five days, or even longer. Clear your mind so you can treat the next participant with a fresh start. It is best if you can get completely away from the test area, if only briefly. Testing is mentally demanding on the moderator, so take it easy on yourself.

### ***Prepare for the Next Participant***

Onward, ever onward. Go back to the beginning of this checklist if you need to, and review for the next session.

## **When to Intervene**

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When testing, you will encounter many situations that simply cannot be covered by a guideline. Following are some frequently asked questions regarding two situations that occur quite often. The authors have also included some comments in the next section, often found at the tip of a moderator’s tongue during a usability test, but which are better left unsaid for obvious reasons.

## When to Deviate from the Test Plan

When is it appropriate to deviate from the test plan? This is one of the most difficult decisions for the novice moderator. Obviously, experimental rigor requires you to retain the same conditions from session to session. However, it is of little benefit to stick with a test design that is not meeting your test objectives. Testing is a serious undertaking. It is a waste of time and money to continue with something that is not providing you with the required data.

Following are some of the more common reasons for deviating from the initial test design. Keep in mind that if you are conducting the type of rigorous research that requires you to hold all conditions constant, your data and findings will be seriously affected by major changes to the test design. In the beginning, when you are first learning how to moderate a test, err on the side of sticking to the test plan as much as possible. With that said, you should consider changing the test plan under the following circumstances:

- **If the participants either do not understand or are not able to identify with your task scenarios.** Consider revising the tasks to more accurately reflect reality. It is not unusual for the development team to lack a clear understanding of the end user and usage for a product, and you may not discover this until the actual test. This is one of the very good reasons to do at least one pilot session.
- **If you uncover additional areas that need to be investigated, but were not originally included in your test plan.** If there is an aspect of your product that is unexpectedly problematic, it is important that you not stand on ceremony but explore it. For example, you may find that participants are having difficulty simply downloading your application and are taking three times as long as expected. Even though nothing indicated a problem with that module and you had not planned to devote much energy to probing it, you need to explore why it is taking so long.
- **If your questionnaires are asking the wrong questions.** If the questions do not jibe with the problems or issues raised during the test sessions, change them. Ask questions that go directly to the heart of any problems uncovered.
- **If the participant(s) you expected does not show up.** If the wrong person(s) shows up, with different experience and background than expected, consider changing the test design on the spot. For example, if you are expecting a participant who is experienced with the Internet and a complete novice shows up, you have two choices. You can ask the person to leave (but pay him or her first), or you can make the best of the situation. The ultimate decision depends on your schedule and whether you have time to acquire a different participant.

- **If the timing you set up doesn't work well.** Another situation in which you might deviate from the test plan is when you find that the timing for the tasks is not working out. How should you let participants continue when they have exceeded the maximum time allotted to a task? This depends on the priorities of the test and how much time you have for the overall session with each participant.

If you have developed benchmark times representing the maximum allotted duration of a task, you need to decide what you will do when the participants take longer than the benchmark. You could stop them as soon as they reach the benchmark, of course, but not being allowed to complete a task can often be discouraging for the participant. If you have limited time with users, then you must stop them at the time limit for each task and move on to the next one. If you want to cover certain tasks, set limits for each, whether you are measuring time on task or not. If you want to see how many tasks participants can complete, keep track of their success, but end the session on time. What you do usually depends on how close the participants are to completing the task.

If the participants are close to completion and there is time in the session, let them continue, even though *that task will be graded as "unsuccessful."* After a few more minutes on the task, if they still are not able to complete it, we will ask them to move on to the next task.

If they are not at all close to completing the task, give them a hint to see if you can get them past whatever aspect is causing difficulty. Provide the minimum information that gets them moving toward a solution, and no more. Of course, as with the previous example, once a participant receives a hint, the task is graded as either "unsuccessful" or "required prompting." If need be, continue to provide hints in the interest of learning the precise information that does the trick. This can help in redesigning the product.

## What *Not* to Say to Participants

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We have discussed what you *should* do or say during a test. What you do not say is equally important. With all due respect to David Letterman, here then is our "Top Ten List" of Things *Not* to Say to Participants:

10. Saying, "Remember, we're not testing you," more than three times.
9. Don't worry, the last participant couldn't do it, either.
8. No one's ever done *that* before.
7. HA! HA! HA!

6. That's impossible! I didn't know it could go in upside down!
5. Could we stop for awhile? Watching you struggle like this is making me tired.
4. I didn't really mean you could press *any* button.
3. Yes, it's very natural for observers to cry during a test.
2. Don't feel bad, many people take 15 or 16 tries.
1. Are you *sure* you've used computers before?