



MENTAL MODELS

Aligning Design Strategy with Human Behavior

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Many people have written¹ about how to conduct a non-leading interview. The skill is required of so many disciplines: ethnography, market research, management. You need to think hard while listening to the interviewee, recognizing when the conversation is non-productive, and then nudging it back on track. You need good social skills, so you can make the interviewee feel comfortable speaking to you. You need to be aware when you hit sensitive ground in the conversation. Above all, you need to be able to get the information you need out of the discussion.

Chat by Telephone or Face-to-Face

First of all, I'm going to tackle the question of whether to interview someone in-person or remotely. I take the following approach: If there is a *unique* artifact a person uses, a context in which she acts, or group feedback she gets that *influences* the kinds of things she does, then I want to see her in person. Otherwise, I conduct interviews by telephone. Because I am not conducting evaluative research, I don't need to see how people behave when interacting with their tools. That kind of detail is too specific for a mental model and would get grouped in with a higher-level concept. I just need to know the general steps people take. For that, a verbal description is fine.

There are many advantages to site visits and direct observation, and there are just as many advantages to remote research. Most obviously, it costs less because no travel is involved. You also reap savings by bracketing your research into hour-long time periods, rather than day-long site visits. In this way, you gather just as much data as you need, then move on. If the process you are exploring for the mental model spans months, the participant can summarize the parts that are important to her in a matter of minutes. Additionally, getting a global understanding of potential customers for a product is important. Conducting interviews by telephone allows you to interview in every location you can conceive of people using

¹ Chapter 10, "Conducting the Site Visit—Honing Your Interviewing Skills," by JoAnn Hackos and Janice Redish in *User and Task Analysis for Interaction Design*; Chapter 6, "Universal Tools—Recruiting and Interviewing," in Mike Kuniavsky's *Observing the User Experience*; and Chapter 4, "Contextual Inquiry in Practice," in Hugh Beyer and Karen Holtzblatt's *Contextual Design*.

your product. This advantage alone is of immense power for many products.

Building a mental model is generative research. It is an exploration of information, as the participant knows it. You are allowed to ask participants to tell you about it rather than strictly observe them.

In-Person Interviews of Media Buyers

In 1998 I conducted a set of interviews for a dot-com startup interested in providing an online solution for media buyers. Media buyers are professionals who determine where to place what kinds of advertising for a particular client/event. For example, the media buyer for the San Francisco Giants might place season-oriented ads on bus shelters and specific game-related ads on the radio the week before the game. Each media buyer that I was to interview had a different way of tracking ads and data and making decisions based on that data. Some used complex Excel spreadsheets. Others used a set of folders with ad copy and printouts. Each of them approached the problem with a slightly different set of steps. I needed to see my interviewees in person in order to know to ask about the unique tasks they were doing.

Do Not Lead

If you're not going to lead, you still need to stay on your toes. I am not a dancer, but perhaps this rule applies to the ballroom floor as well. You need to stay focused on where your conversation partner is moving.

Think of your interview as dinner party conversation. You have been seated next to someone you do not know. You don't have a list of questions scribbled on the napkin on your lap to peek at, so you start out with some typical topics. "How do you know our hostess?" "What do you do for a living?" "What kinds of pastimes interest you?" "What is your favorite movie, book, music, etc.?" These are the socially acceptable "prompts" that

Do Not Lead

we've all learned from experiences talking with strangers at parties. You don't have any expectations of the person's responses. You ask for more detail about things the person says as the conversation progresses. You follow the tangents when the person switches topics. You act interested. If the person starts talking about a topic you don't want to pursue, you change the subject. Your goal is to get to know that person, pass the time at the party enjoyably, and possibly make a new friend.

The fact that you have no expectations about the person's responses is important to how you should approach a non-directed interview. For illustration, I want to talk about two examples of the opposite technique—when the person wants the conversation to fit into some structure or belief they have already formed. You probably have experienced the interlocutor who forces the conversation back to his own points again and again. This person is insisting that you shift your worldview to match his own. As you know, these are uncomfortable conversations. (Don't confuse this example with a person who plays devil's advocate so that the two of you can both explore different perspectives together and enjoy learning new points of view.) A second example is a TV or radio personality who conducts interviews. This person has the explicit goal of entertaining his audience by drawing out the interviewee, trying to get them to reveal something new, talk about something controversial, or tell a titillating story.² In both of the above examples, the interviewer directs the conversation to the topics he wants to talk about and asks questions about things that have not been mentioned yet by the interviewee. You want to do the opposite.

Of course, if the conversation starts heading in a direction that is out of scope for your research, you will want to redirect it. Keep your ears open for this. Above all, though, you want to feel confident and relaxed. Don't expect too much of yourself. Running a non-directed interview is difficult at first, so you have permission to make a few false starts in each conversation.

² Terry Gross's interviews on National Public Radio's "Fresh Air from WHYY" (www.whyy.org/freshair/) are examples of interviewing with the goal of entertainment in mind.

Six Rules for Mental Model Interviews

There are six rules for mental model interviews that I've collected over the years that help when learning the art of non-leading conversations. I introduce them here and explain each in detail.

1. Behaviors and philosophies, not product preferences
2. Open questions only
3. No words of your own
4. Follow the conversation
5. Not about tools
6. Immediate experience

1. Behaviors and Philosophies, not Product Preferences

From the beginning, the main mistake I wanted to avoid was following what most software companies' marketing departments were doing in the 1980s and early 1990s. The company would have a product under development, and marketing would be partially in charge of figuring out the next feature set. To do this, they would ask current customers what they liked and hated about the product they were using. They would ask what new functionality the customer would like to see in the product. Then they would report their findings to the engineering department. It was a very narcissistic way to develop a product. So, I resolved not to ask customers about the product at all. I wanted to find out, instead, what customers were trying to achieve. I even talked to people who weren't customers, to see if people who weren't early adopters had different goals in mind. So my first rule about interviewing was to concentrate on what the person is trying to do and not on the product itself. Avoid the words "love," "hate," and "wish." This rule moves you from the old type of evaluative research done by marketing groups to the generative research category.

I used to refer to this rule as "Do, Not Feel," but people confused feelings with philosophies in their interviews, thereby missing out on the latter. By "feel" I meant "love it," "hate it," or "wish it did this." I changed the rule to "Tasks and Philosophies, not Product Preferences" to be clearer...not to mention the fact that people could misinterpret the previous wording as a demand: "Do not feel." Or something that Yoda would say, "Do not; feel."

2. Open Questions Only

Remember your junior high school journalism class? The six journalist questions were drilled into your head: who, what, when, where, why, and how. There is a good reason for this: These are open questions. A good reporter won't let her own opinion prejudice a report she is writing. By asking "Were you at the Ivory Tower Nightclub last Saturday night?" she indicates she believes you were there, and she is missing the opportunity to find out where you were if you answer, "No." By asking "What did you do last Saturday night?" she will get a more frank answer, and not let her interviewee know what she has pre-decided in her mind. Begin your questions with these six words and you can't go wrong. Begin with "Did," "Have," "Are," "Were," or "Will" and you are leading the participant down the path of your assumptions.

Ask Open-Ended Questions

In the book *Difficult Conversations* by Douglas Stone, Bruce Patton, and Sheila Heen of the Harvard Negotiation Project, there is a chapter called "Listen from the Inside Out." One of the paragraphs on page 174 of the Penguin edition makes this point:

"Open-ended questions are questions that give the other person broad latitude in how to answer. They elicit more information than yes/no questions or offering menus, such as, 'Were you trying to do A or B?' Instead ask 'What were you trying to do?' This way you don't bias the answer or distract the other person's thinking by the need to process your ideas. It lets them direct their response towards what is important to them. Typical open-ended questions are variations on 'Tell me more' and 'Help me understand better...'"

3. No Words of Your Own

This is the rule that raises the most eyebrows. How on earth can you interview someone if you can't use any vocabulary that she hasn't already uttered? Well, it's possible. Of course I don't mean common words that we speak all the time. When I say "no words of your own," I mean vocabulary that is specific to a topic or industry or circumstances of your product. Don't ask the media buyer "How do you determine your strategic market?" if he hasn't mentioned "strategic market" yet. Maybe he calls it something else, or maybe he thinks of it as two distinct sub-components that he refers to in a different way. If you start throwing "strategic market" around in the conversation, he is liable to just shrug and go with what you understand, rather than explain his own perspective.

There is an oh-so-human tendency for participants to agree with you even though the structure you're voicing isn't necessarily their structure. This behavior is probably an attempt to make sure the connection happens on the part of the participant. The person nods her head and thinks, "Yeah, yeah, that's close enough, so yeah, I agree." Avoiding vocabulary that hasn't yet been introduced by the participant will solve this tendency.

4. Follow the Conversation

This is the "dinner-party conversation" rule. Don't conduct the interview as a series of question-and-answer, call-and-response snippets. Don't act like an automaton reciting survey questions. Allow your participant to direct the conversation most of the time. If you must segue into a new subject, do it with a reference to what has been said so far. Have a conversation. Make sure your participant does most of the talking.

Since you are holding a conversation with the participant, you can adjust the flow of the conversation based on what the participant says. There is no need to cover your topics in any specific order, so don't worry if the participant brings up something that you had planned to talk about later. Dive into it when the topic is brought up. It results in unbiased data when you let the participant lead the conversation this way.

5. Not About Tools

Don't get into particulars about how the person operates each tool they use. This tendency is hard to overcome for those of us who have conducted a lot of usability research. Ahem. Find out what they are using the tools to accomplish—what's going on in their minds. What were they thinking when they were walking down the hallway to use this tool? (That's the "Hallway Test," found in Chapter 8.) Rather than dwelling on how a person looks up a phone number to make a call, explore what the call is meant to achieve. "Check in with a subordinate for status on a project?" "Place a re-order for a particular component?" Your conversation is not about the tool; it's about the course someone is following to get something done.

6. Immediate Experience

In Chapter 5, when I talked about recruiting, I mentioned the need to ask for people who have recently done the thing you are researching. During the conversation, you need to keep this in mind. Ask about "the last time you did this." It's easy to follow the conversation into the deep past, or into an area your participant does not have much experience with. Be aware of this when it happens and wander back to areas where the participant's intentions are strong and easily explained. I should mention here that ethnographers find that details are often misreported. They believe that site visits and observation are the best way to avoid getting fiction mixed in with your facts. However, at the high level that you're interviewing, there are few of these kinds of details in the first place. You're not interested in whether the person smiles before or after saying "thank you" to the cashier in the grocery store. You're interested in whether checking out is actually something that registers in the person's mind, or if "getting a good deal on each item" is something he concentrates on more.