



**CHILD CARE**  
State Capacity Building Center

# Improving Consumer Education Websites with User Research

July 2019

# Improving Consumer Education Websites with User Research

The **Consumer Education Website Guide** series aims to help state and territory staff develop effective, accessible, family-friendly consumer education websites. This series is designed to support the efforts of states and territories as they enhance their consumer education websites to help families understand the full range of child care options and resources available to them.

These guides share best practices and tips that state and territory staff can use to improve the user experience, make all information clear, and prepare for common accessibility barriers—such as limited English proficiency, limited literacy skills, and disability. They will help to ensure that all families have easy access to accurate, understandable information as child care consumers.

## Overview

This guide introduces a range of user research and testing methods to help states and territories enhance their consumer education websites. User research seeks to understand users' expectations, behaviors, needs, and motivations when they engage with products like consumer education websites. User-centered approaches also help increase satisfaction with websites, applications, content, and online tools.

User testing evaluates how stakeholder groups interact with a website and helps identify and verify gaps in how well a design meets their needs. User testing is key to successful product development and can help a state or territory determine if its consumer education website is helping stakeholders accomplish tasks and answer questions. It can also help states and territories figure out if their website is helping them meet their defined goals.

This guide summarizes key methods that are widely applied in user-experience research and design. It also highlights best practices and key considerations in conducting user research to help states and territories enhance their consumer education websites.

## What Is Usability Testing?

### How Does It Work?

In usability testing, users are presented with content—such as architecture or design prototypes—that replicates the design, content, information architecture, and interactions of the proposed website. Users receive tasks or prompts to perform on the prototype to show if they understand the conceptual design. User experience (UX) specialists observe users' behavior and the choices they make, follow up with questions, and infer why they acted in these ways to figure out how to improve the product before development. Others may observe; however, only the UX specialist will interact with participants.

User research is conducted in the formative stages of designing content and web design prototypes. This ensures the team is building the right thing, at the right time, for the right people. Rapid prototyping (including pencil sketches) can help you refine ideas before developing higher-fidelity wireframes (more realistic content with a more polished look) for usability testing exercises. In essence, user research informs design; then, usability tests help teams decide if they've built the right product with appropriate, usable features.

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## Prerequisites

**Get support on content from subject matter experts.** Sufficient content is needed to build the site information architecture. The tasks users perform on the website will determine what content is needed. UX specialists will provide support for general writing for the web recommendations, such as headings, phrasing, chunking, and plain language. In experience design, this is called a content-first design approach, which is the easiest way to design a successful website. Knowing what content types and attributes a web design will need to support is important. Never start with wireframes. Start with content and architecture.

**Finalize tasks before building out concepts and writing content.** User interviews and web analytics data can help inform the top tasks that users come to your site to complete. Build content and design features around these tasks. Once prototypes have been developed for usability testing, the tests will measure how easily users can complete those tasks.

While many organizations focus on user research and usability as a practice, one of the most well-respected sources of scholarly knowledge and practical advice in the industry is the Nielsen Norman Group. Their [“UX Research Cheat Sheet”](#) is helpful for deciding which research activities to conduct and when. In this guide, we cover several methods in depth and offer rationales for the benefits and challenges associated with each one.

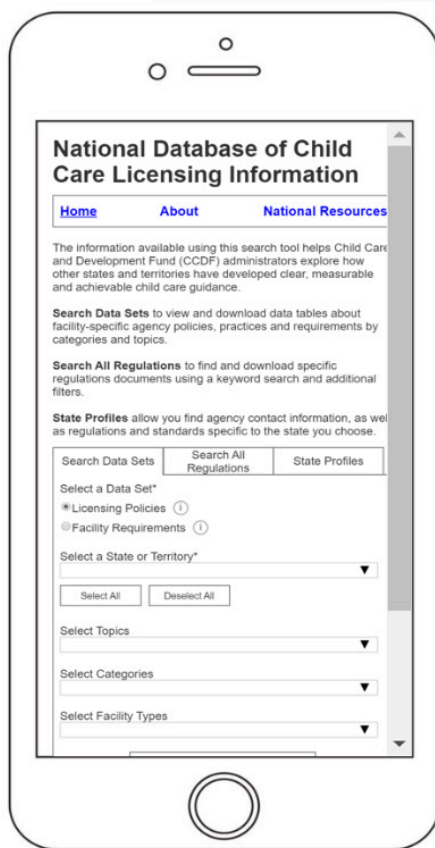


Figure 1. A clickable interactive wireframe for a child care licensing search tool, developed by ICF for the National Database of Child Care Licensing Information, part of the National Center for Early Childhood Quality Assurance, September 2018.

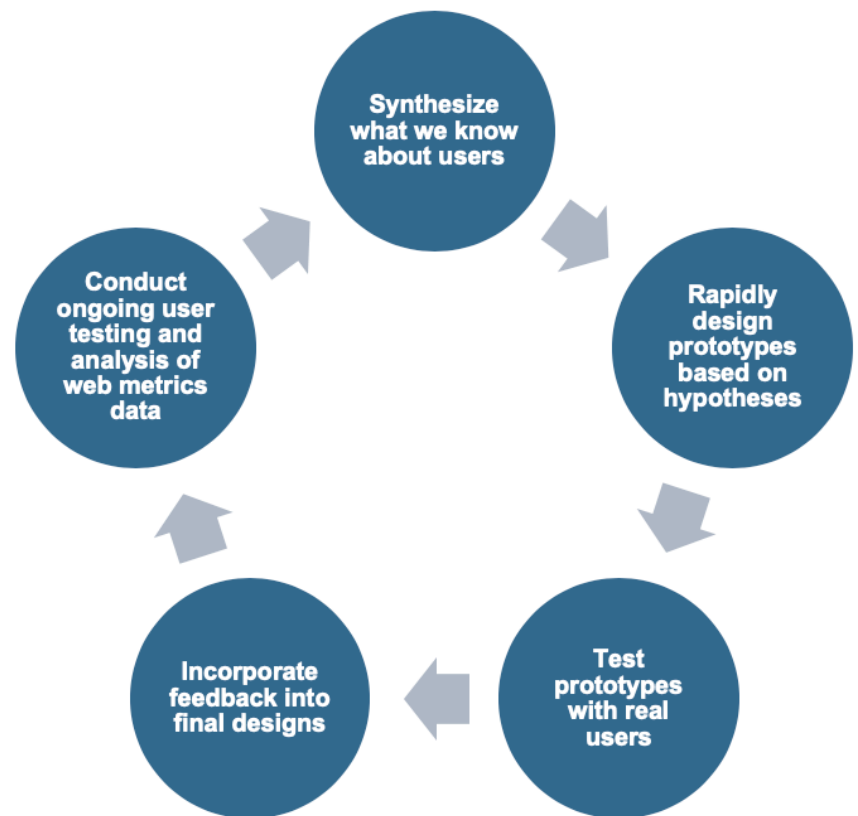


Figure 2. A sample framework for designing and developing a state consumer education website. The process can start at any point, even while designing improvements to an existing site.

## Considerations for Conducting User Research

There are a variety of steps to consider before gathering user feedback about a consumer education website.

### Participants

One of the most important steps is to confirm that participants are screened, so you know that they are qualified to share insights on the product being tested. For example, users may include child care providers, families, and other stakeholders who might use the consumer education website. The key consideration is that participants should be like (or actually include) the consumer education website's users.

While some organizations choose to engage a specialized recruiting agency, many recruit their own participants. Consider recruiting users who are not involved in designing or developing the consumer education website and are representative of the target audience. From a behavioral standpoint, matching the demographics of target users is helpful, but finding people who are likely to engage with the consumer education website as intended is key.

You can use internal staff for early pilot testing during informal "hallway tests." However, you should never use internal staff or stakeholders as stand-ins for real users when preparing a near-final prototype to move into development.

### Equipment

While logistics are often a straightforward matter of proper scheduling and follow-up, more technologically dependent methods—such as eye-tracking or tests that require special recording equipment—require extra consideration. If you plan to conduct user research with mobile devices, you should set up and test your technology and work space beforehand. Conducting user research using technologies that your participants may be unfamiliar with could feel unnatural or out-of-context.

### Incentives

If the group decides to offer an incentive to participants, you should have it on hand to either give to the participants directly at the end of an in-person session or to send out as soon as possible after a remote session. When offering incentives, you may find it helpful—or you may be required—to account for how many incentives you distributed.

## Moderated User Testing

The methods discussed below are carried out by user researchers in person, using virtual tools, or via telephone.

### Interviews

Interviews are one-on-one discussions in which a moderator asks users questions about their experiences and attitudes about trying to find information or complete tasks on the consumer education website. This method helps researchers gain a better understanding of how the website meets users' needs. You can conduct interviews in person or remotely. Including a prototype of the consumer education website in your interviews can help you get users' hands-on impressions. Note that some interviews may be exploratory in nature. For example, they might help you learn about your users' preferences and basic needs and can inform initial prototype development. Other interviews may work in service of usability testing with a prototype or existing site.

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Sample interview questions for usability tests include the following:

- Can you tell me why you chose this option?
- How often do you use search tools? Which ones do you use regularly and why?
- You mentioned the information presented in that list doesn't make sense to you. Can you explain that a little more?

Usability tests are different from other types of interviews in that the moderator should talk very little and listen a lot. The moderator must be careful not to sway how users interact so that he or she can observe what they would do if they were completely unguided. Usability tests are not conversations—they are observations. A moderator can use techniques such as repeating participants' words in the form of a question to encourage them to give more information or responding to their questions by asking what they think, instead of providing an answer. Both techniques focus on listening more than talking.

Interviews should have an accompanying moderator's guide that lays out a general roadmap of what you want to learn. This is not necessarily a strict script to follow but rather a list of topics, questions, and scenarios you would like to learn more about that will shape the discussion. Having a moderator's guide will also help you remain consistent if multiple interviews are conducted or if multiple moderators are used.

If the interview is remote, you will need a phone line or virtual conferencing space. If the remote interview is accompanied by a prototype, screen sharing software is especially helpful.

A recording device is also helpful so that interviews can be replayed later for more in-depth analysis. If you decide to record the interviews, ensure that participants understand they are being recorded, and obtain any necessary permissions beforehand.

## Benefits

Interviews allow a detailed discussion of various topics, and a skilled moderator can pick up and follow threads from a user's answers to deeply explore important subjects. When accompanied by a prototype or product, one-on-one interviews allow you to hear what a user thinks and see what they do on the website.

Interviews have multiple uses. They are good for getting important information before building or improving a product, validating your assumptions along the way, and—when paired with a website prototype—testing your final product before launch.

Interviews are typically best for learning about issues that prevent users from completing tasks or answering questions. They can also help designers learn about specific topics of interest to the user (for example, finding care for children with special needs) or validating the final product prior to launch.

## Challenges

Interviews are time consuming, and scheduling around other obligations can be tricky. When interviewing members of the public, it is customary to offer an incentive for their time, which can drive up costs. Technology can also be a challenge when conducting remote interviews, as many virtual conferencing and most screen sharing applications require downloading applications to a user's device, which some participants may be unable or unwilling to do.

Finally, crafting an interview with an eye toward sparking discussion is important. If questions are not open-ended enough, a survey may be a better option than an interview.

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## Focus Groups

Focus groups are moderated discussions with a small group of people in which a moderator asks questions to learn about users' attitudes and experiences. Focus groups are often used in marketing settings to get a group's reaction to products and concepts. In a usability setting, focus groups can be used at the outset of a project to gain important information about what tasks users need to complete or questions they need answered. For example, states and territories may want to use focus groups to understand more about why users are coming to the consumer education website and what questions they expect to have answered based on the website content.

Focus groups can also help you gauge reactions to visual design concepts, logos, and branding of the consumer education website. User researchers typically do not use focus groups to test prototypes and often prefer in-depth interviews as a means of gathering early project information.

Focus groups should have an accompanying moderator's guide that lays out a general roadmap of what you want to learn. Remember, this guide is not a strict script that you must follow; it is a list of relevant topics, questions, and scenarios that you'll use to shape your discussion.

A recording device is also helpful so that discussions can be replayed later for more in-depth analysis. Like the interview protocol, if you decide to record the focus group, make sure that participants understand they are being recorded and any necessary permissions are obtained beforehand.

## Benefits

Focus groups let you talk to multiple users at once and enable discussion and sharing among users themselves. Often, listening to how a discussion develops is just as instructive as the outcome of that discussion. Focus groups also allow a skilled moderator to follow discussion threads and probe important topics more deeply.

## Challenges

Focus groups are time consuming and scheduling multiple participants around other obligations can be difficult, even though they often involve fewer sessions than individual interviews. When conducting a focus group with members of the public, it is customary to offer refreshments and light snacks, plus an incentive for their time, which can drive up costs.

You may also have difficulty predicting the dynamic of a focus group, which can make it difficult to moderate. Often, a loud voice can dominate the conversation, and participants with opinions that differ from the norm may feel uncomfortable sharing their views with the group. Focus groups can also let you know only what users think, not what they do when actually interacting with a product. These are often different. Finally, focus groups can be subject to the "halo and horns effect" in which stakeholders hear what they want to hear, thereby confirming biases (halo), or they have many negative comments that outweigh positive or neutral comments (horns).

## A/B or Multivariate Testing

In A/B testing, you run an experiment between two versions of a digital product simultaneously (for example, a webpage element). The purpose of this method is to see which version performs the best based on changing one variable, such as the position of a button or link on a webpage. This testing method is ideal for researchers and designers who are trying to decide between two competing elements.

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The tests typically involve two equal sets of users who are assigned, at random, to view different versions of an interface. Depending on which metrics the tests aim to measure, A/B testing will generate results about which words, images, videos, and other design elements are most well-received by users. Ultimately, these results can help researchers gather insights on which version of the variations accomplished a specific goal more effectively. Below is a description of A/B and multivariate testing methods.

- **A/B testing:** This is widely applied in user experience research and the development of marketing and content strategies. For consumer education websites, A/B testing could be used to test if placing a child care search button on the home page impacts its usage compared to placing the search button on each page of the consumer education website.
- **Multivariate testing:** This is a form of A/B testing in which multiple elements are tested at once. Multivariate tests are often used for determining how multiple user interface elements interact with one another and are typically used for incremental improvements to an existing design.

Many tools on the market can help researchers and analytics professionals optimize digital products with A/B and multivariate testing. Product owners should collaborate with their UX as well as analytics and web development teams to devise the best solution for their information technology environment.

## Benefits

A/B testing benefits product and website design in many ways. This generally low-cost user-testing option has the potential to offer significant, actionable results.

A/B testing is best used when you have a clear vision or goal for the target product along with some basic knowledge of how the content is performing. This method is especially valuable for detecting and comparing small differences in designs. Used consistently, the testing outcomes may include improved website optimization, reduced bounce rate, and better user engagement.

Consider a few areas when planning an A/B testing procedure:

- Running all tests simultaneously can account for any variations in timing and other factors that may influence user behaviors.
- Depending on the amount of traffic a site may accrue or the sample size of participants, the amount of time the tests would require for the most accurate result may span from a few days to a few weeks.
- Testing too many metrics at the same time could skew and complicate the findings.

## Challenges

User research teams without experienced developers and analytics specialists may face challenges in launching A/B or multivariate testing, data collection, and synthesis. These methods are often used by organizations with a high maturity level when it comes to running rapid prototyping iterations and design sprints as well as optimizing digital performance according to organizational goals and objectives. Likewise, a team running A/B or multivariate tests will need a specialist who understands data and statistics to ensure that tests yield valid data.

Teams need some existing research data to understand with whom to test new design elements and at what times. They will also need experienced UX designers who can help them understand what elements to test—often, product owners may want to guess which elements to test, or they try to test too many elements at once, which can lead to data that are not useful in driving future design decisions.

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## Eye Tracking

As its name suggests, eye tracking measures the motion of the eyes and where they focus on a piece of content. This method seeks to evaluate what a user is (or is not) looking at when navigating webpages, images, or texts. Examining areas that get the most user attention helps researchers identify the reasons users gravitate toward certain content and design elements. Researchers can then evaluate interfaces for the optimal user experience.

Eye tracking is typically employed through various visualization strategies such as heat maps and pathways mapping.

- Heat maps: These provide visual representations of where and how intensely the site visitors concentrate their gaze. The maps use a color-coded scale that shows the duration and intensity level of focus.
- Pathways mapping: This creates lined maps with color-coded anchor points by tracing the eye's movement on a page. The anchor points indicate areas of focus and periods of attention.

## Benefits

Eye tracking testing is best for research designed to observe real-time reading patterns and how participants scan content in a controlled environment. The main benefits of eye tracking include the following:

- Providing a visualization of where the users' gaze is landing on a page
- Showing the intensity level of user attention on different parts of the content
- Offering insights on whether the users are scanning or searching for something specific
- Sharing recommendations for the size and placement of items on a page

## Challenges

Identifying clear research goals and available resources is important when considering eye tracking as a testing method. Since the procedure requires special tools and equipment, performing an eye tracking test can be costly. Other challenges include the following:

- Conducting an effective eye tracking session also involves knowledgeable specialists who are trained to operate the equipment and record sessions.
- Tests can be lengthy, depending on the amount of materials the participants are asked to view and the level of engagement.
- Tests are relatively less efficient, considering they are mostly done in person with one participant per session.
- Test results do not explain why users are looking at certain parts or whether the users focus their gaze on something with awareness.



Figure 3. A heat map from an eye-tracking study conducted for ChildWelfare.gov by ICF in September 2017. The study was used to determine how users interacted with the site search as well as where specific audience segments looked for information related to their needs.



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## Unmoderated User Testing

The research methods below are typically delivered to users via an online link and are not moderated in real-time by the researcher.

### Surveys

A survey is a set of questions tailored to gain user insights about a product or experience. Surveys often contain a mix of multiple choice, rating scale, and short answer questions, usually leaning more heavily on multiple choice questions. Many options for online surveys are available.

Many survey tools are available for free and for a fee. These tools range in the sophistication of their analysis and reporting. Researchers may recruit participants who are representative of their target audience via mail, email, or social media.

### Benefits

Surveys are time and cost effective and can be used to gather both qualitative and quantitative insights. Surveys are also much easier to do at scale than other methods like interviews or focus groups. Surveys are generally cost-effective, as they can reach many users while using minimal staff time and can be created using free technology resources.

### Challenges

As with other methods that do not directly observe users' interactions with an experience, surveys rely on self-reporting, which may not accurately reflect users' true behaviors. Surveys also generally see a low response rate from users and therefore require a larger pool of potential participants to achieve validity in the results.

### Card Sorting

Card sorting is a testing method in which you give users a series of labeled cards and ask that they organize them into groups that they think are most logical and appropriate. This method can help researchers understand how a user would structure and organize content in a way that makes the most sense to them. Card sorting delivers insights on the information architecture, navigation structure, and menu paths of websites. It allows the researchers and designers to understand how the users would expect to see content grouped and how the information should be labeled.

There are two major types of card sorting:

1. Open card sorting: Participants organize cards into groups and create a label that best describes that group. The open card sorting is commonly used to understand how users group content and name each category, which informs new information architectures on a site.
2. Closed card sorting: Participants group both content and category cards based on the predefined categories. This approach is most efficient when applied in an environment where information groups are set, and the goal is to evaluate how users fit each item into the given categories.

Either of these methods can also be done remotely. Many online software tools allow computer-based sessions to reach as many participants as the test would require. Participants typically work on their own computers to sort the cards provided through software programs. The programs are typically embedded with tools to help with data analysis; however, since there is no contact with the participants, understanding why they sort the cards in a certain way is challenging.

The following table highlights a card sorting example for a consumer education website. In the example, the different categories are presented with possible content for each category.

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Categories	Cards
CCDF implementation	<ul style="list-style-type: none"><li>• Consumer education for families seeking child care</li><li>• Criminal background checks for child care workers</li><li>• Licensing regulations for child care</li><li>• Emergency preparedness for child care</li></ul>
Tools for professionals	<ul style="list-style-type: none"><li>• Infant care guide</li><li>• Afterschool enrichment guide</li><li>• Child care systems building guide</li></ul>
Providers	<ul style="list-style-type: none"><li>• Starting and funding a child care program</li><li>• Choosing insurance coverage for a child care center</li></ul>

Figure 4. Example card sorting test to determine top-level categories for content areas on a hypothetical child care technical assistance website, which could be used to inform information architecture and to design the site's navigation menu and labels.

## Benefits

Card sorting is most useful when there is a basic understanding of the topics and content. Using card sorting to examine how users group information can offer you many benefits, including:

- Understanding users' expectations with content layout
- Deciding on the information structure for a website
- Labeling sections and navigation accurately
- Running experiments in a simple and inexpensive way
- Obtaining feedback quickly on user expectations for how content is organized

## Challenges

Card sorting is ideal to implement at the beginning of user research to seek insights on the redesign of a website or content rearrangement. This method is easy and effective yet limited in considering user motivations and psychology. Test results could also vary due to uncontrollable test conditions, and data analysis could be time-consuming depending on the complexity of the data collected.

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## Tree Testing

Tree testing is a way to examine how users look for information on a website and where they may get confused or lost. Participants are prompted with hypothetical scenarios or tasks and are asked to identify where they would expect to find such information. Tree testing evaluates a website's information structure by asking users to locate items based on the site's existing terminology.

The main goal of tree testing is to assess site navigation and how easy it is for the users to locate information. During the test, the participants are presented with a menu structure in its most basic form (in other words, text only) and indicate where they would expect to find specific topics and items within said structure. Tree testing is particularly useful for providing guidance in the early stages of the design process and visualizing the paths participants take to find certain site information. It can also be used as a follow-up method to validate the categorizations from the card sorting exercises.

## Benefits

Like card sorting, tree testing presents a relatively simple and inexpensive way to help identify navigation issues with a website. This is made possible by several advantages:

- Tree testing sessions are usually short, focusing on a small number of tasks to ensure maximum concentration by the participants.
- Tree testing can be conducted remotely to reduce cost using online tools that can help facilitate an easy setup of test design and participant recruitment.
- Tree testing results are generally quick and easy to analyze, with the online tools providing clear visual graphics for each task. Results can also be acted upon quickly once problem areas of the site structure are identified.

## Challenges

While tree testing focuses on evaluating site navigation by structuring tasks for the participants to complete, results analysis aims to assess the number of users completing the tasks, success rate for each task, and the average amount of time taken for each task. Like card sorting, this test design applies a basic menu structure so that no visual elements assist participants with content navigation. If conducted remotely, you also have no direct interaction with the participants to observe or discuss why they made certain choices.

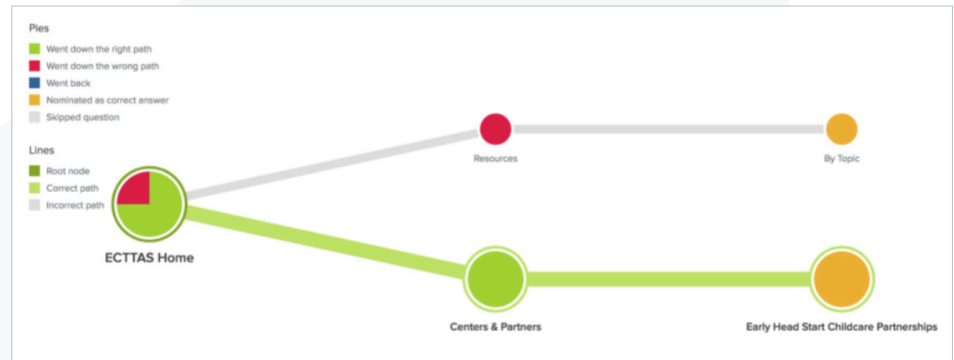


Figure 5. Sample results from a tree test used to help determine the proper structure for a navigation menu redesign and content migration for the Early Childhood Training and Technical Assistance System website in June 2018. Study conducted by ICF.

## Other Kinds of Testing

There are other types of research that states and territories can use for their consumer education websites. Three common methods are first-click testing, contextual inquiry, and diary studies.

### First-Click Testing

In this method, users are given a task, and the moderator watches where they click first (or the response is recorded by software). This method lets the moderator see what may be an intuitive response to a given task and can help the consumer education website designers determine how to order information. It can also indicate a user's preference for a particular design element.

### Contextual Inquiry

In this method, the moderator observes participants using the product or experience in their own environment. Typically, these data are more realistic than data collected during other types of tests because the user is more likely to perform tasks the same way they would in a normal work day, for example. This technique is especially helpful for understanding if the user's surrounding environment may impact his or her needs.

### Diary Studies

This method requires users to journal about their use of a product, such as a consumer education website, search application, or another online tool. Through diaries, UX researchers try to learn about a user's habits (for example, when they will engage with the site, how they will share its content with others) and other contextual factors (for example, what device they used to access the website each time). Researchers should give users a framework for exactly what they should log and how often. The suggested inputs will vary based on what is being tested (for example, smartphone use, search tool use, sharing links, reading articles).

## Conclusion

User research is an important, continuous part of any design process, especially for online products such as consumer education websites. Whether moderated or unmoderated, an array of options can help researchers understand users' expectations, needs, and behaviors.



**CHILD CARE**  
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