

So You Want to Do Anthropology in Your Library?

or

A Practical Guide to Ethnographic Research in Academic Libraries

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Introduction

This guide is meant to help you, a librarian working in an academic library, to begin to think about how you might develop your own ethnographic research project. Specifically, this toolkit demonstrates the use of applied ethnography—that is, ethnography pursued with the purpose of uncovering, understanding and addressing social problems—and will illustrate the process of planning and executing an ethnographic study in a library from beginning to end.

The toolkit was developed as part of the Ethnographic Research in Illinois Academic Libraries (ERIAL) Project, a two-year study of the student research process. Funded by the Illinois State Library, the ERIAL Project was conducted at DePaul University, Illinois Wesleyan University, Northeastern Illinois University, the University of Illinois at Chicago, and the University of Illinois at Springfield with more than 600 student, librarian and faculty participants. The goal of the project is to understand how students do research, and how relationships between students, teaching faculty and librarians shape that process. ERIAL is also an applied study, in particular using techniques and perspectives from applied anthropology as well as the ethnography of design. As such, it is meant to generate results that will help participant libraries develop more user-centered services.

The ERIAL Project is built on an ethnographic methodology, which employs close observation of students' research habits. Unlike quantitative studies, which examine the frequency of social phenomena, this study is qualitative, uncovering the categories that students use to understand research, as well as how students search for information, what obstacles they encounter, and how they seek help. It also compares the expectations of students, librarians and faculty for the student research process. The analysis is interpretive, yielding rich descriptions of students' experiences and different groups' understandings of each others' roles. To arrive at these results, project methods include semi-structured interviews, photo elicitation, participant observation, mapping exercises, and web and space design workshops.

What is ethnography?

Social science research (whether in political science, anthropology, sociology, economics, or psychology) is qualitative or quantitative in its methods. Qualitative research involves the interpretation of the meanings, metaphors and symbols of the social world, helping the researcher see how members of a group make sense of a situation. It can also be used to expand one's understanding of the range of group members' behaviors. It tends to involve a small number of respondents, and the data is text-based. Qualitative methods are ideal for elucidating the steps of processes that have not been well understood and for creating rich descriptions of people's experiences. Examples of research questions that would be answered with qualitative methods might be, "How do students do research?" or "What factors contribute to student stress during the research process?"

Quantitative research uses structured questions where the response options have been predetermined and (usually) many respondents are involved. The data is primarily numeric. Quantitative methods answer research questions about how many, how much or how often phenomena occur. Examples of research questions that would be answered with quantitative methods might be, "How many members of our senior class can meet the ACRL standards for

information literacy?” or “How often do students use library resources to complete research projects for class?” Qualitative research tends to be inductive and hypothesis-generating; that is, it helps the researcher make educated guesses about how or why a process happens. Quantitative research, on the other hand, tends to be deductive and hypothesis-testing; it helps the researcher determine how true such an educated guess is across a population.

Ethnography is a collection of qualitative methods that focus on the close observation of social practices and interactions. As a result of focusing on details of individuals’ experiences, ethnography allows the researcher to see beyond received understandings of how a certain process or situation is supposed to work or what it is supposed to mean, and learn about the meanings that its participants ascribe to it. For example, an ethnographer interested in how a student does research would ask her to describe a particular research experience she has had, or spend time with her as she is trying to do research in the library. When the researcher spends time with the student as she works on her computer, watching her click from her assignment to Google to her evolving paper, the researcher gains rich detail about the student’s lived experience of the research process. This kind of observation helps the researcher see how the student understands and does research, and what she values as she goes about it. Ethnography’s unique contributions to qualitative research are that it allows the researcher to tell a group’s story from the point of view of participants by deeply examining the context in which activities occur, usually involving work by the researcher with participants as they go about their daily lives.

An ethnographer may also describe a situation by asking multiple people about it, or by analyzing multiple types of data, such as interviews, direct observation, photographs, journals, or cultural artifacts. By triangulating data sources in this way, ethnography allows the researcher to see multiple interpretations of a situation. It also helps the researcher see how participants’ understandings and behaviors may or may not match. For example, students, who performed quite well on tests of their information literacy in library instruction assessments, would often fail to use these concepts as they went about their actual research. To examine the variations in meaning and behavior between and within individuals, the ERIAL Project’s ethnographic methods included semi-structured interviews, photo elicitation, participant observation in libraries, and mapping exercises, among other things. These are described in more detail below.

Why use qualitative methods like ethnography?

Qualitative research allows you to make fine distinctions and see ambiguities in your data, whereas quantitative research will funnel your data into predetermined categories. Qualitative methods also facilitate in-depth and open-ended investigations into observed phenomena, often allowing the researcher(s) a great deal of flexibility in pursuing research questions. In quantitative research, the researcher loses descriptions of less common categories or distinctions between categories in favor of generalizability. However, qualitative findings often cannot be generalized – that is, made to represent – a wider population with the same degree of certainty that findings from quantitative methods can. You have to be cautious when using qualitative data in this way. Instead, qualitative data builds evidence in a manner similar to a court case, examining individual observations and gradually building a holistic picture of phenomena. This approach can have great explanatory power because qualitative data can directly demonstrate what research subjects actually do, think, and feel in the midst of real-world situations.

Choosing between qualitative and quantitative methods thus involves a trade-off between the former's breadth and generalizability, and the latter's depth and detail. Both methods have relative strengths and weaknesses, and many research questions warrant using elements of both approaches. Before beginning your project, it is important to consider carefully which methods best address your research questions and produce the types of data you need.

In this toolkit, we assume that you are interested in undertaking an ethnographic study of some aspect of your library. Our discussion will therefore focus only on ethnographic methods, and will leave descriptions of other quantitative and qualitative approaches to others.

Sections of the Toolkit

This toolkit will walk you through a discussion of how to develop a research question, how to choose methods, how to create and pilot your data collection tools, how to collect data, how to analyze data, and how to generate ideas for services from your analysis. For the sake of discussion, we will describe a one-year study that is divided into four phases: pre-project planning, data collection, data assessment and analysis, and drawing conclusions and reporting results.

The sections of the toolkit follow the chronology of a project:

1. Pre-Project Planning – Logistics
2. Pre-Project Planning – Research Design
3. Collecting Data
4. Analyzing Data
5. Generating Service Changes & Presenting Conclusions

1. Pre-Project Planning - Logistics

1.1. Timing: It will take longer than you think. . .

Ethnography is time-intensive. Typically, a one-hour interview requires a minimum of three to four hours (or more) of analysis. Add to this time to schedule, conduct, and transcribe the interviews, as well as time to organize, discuss, and write up results, and timelines can quickly extend past a project's original plan. However, time to digest and think deeply about the data collected is a critical component of a successful ethnographic project. Given these requirements, from beginning to end, even a relatively small study can take an entire academic year. It is therefore important to be realistic in your expectations regarding the amount of data that you can effectively collect and analyze.

1.2 Cost: It's probably not as expensive as you think

Ethnographic research does not require a great deal of specialized equipment (probably the most important tools in ethnography are still a pencil and paper!), and most of the equipment you will need is relatively inexpensive. In the ERIAL Project, each university was provided with four still cameras, one digital video camera, and one DVD burner. The project also purchased four laptop computers, two for the project's anthropologists, and two for the transcribers. In total, only a small percent of the ERIAL Project budget was spent on supplies and equipment; the remainder went to funding staff salaries.

1.3 Staffing Considerations

Ethnography is a nuanced task of close observation, interrogation, and analysis, in which the experience of the researcher is often a key component of obtaining high quality data. For this reason, if you are unfamiliar with ethnographic methods, you will be well served by seeking advice from an experienced ethnographer. Conducting good ethnography is best learned by doing, and ethnographic methods must almost always be adapted to the local context of a particular research study. As is outlined below, many ethnographic methods rely on high quality interviews and require skilled interviewers who can quickly develop rapport with participants, can think quickly and improvise within an interview, effectively probe for answers and follow-up on questions, avoid influencing the interview or leading the participant, and maintain comparable research measures over many interviews. This is not an easy task, and no interview or interviewer is ever perfect.

However, while it might first appear daunting, don't be afraid to jump in to anthropological study. Discussing your study with a member of your university's anthropology or sociology faculty will help you refine your project plan and avoid potential pitfalls. There are also numerous guides to ethnographic research that offer pragmatic advice, a few of which are listed in the bibliography below. We hope this guide also helps fulfill this function.

1.4 Time Commitment

While the ERIAL Project had full-time social scientists available, we assume that most libraries will not have this luxury. The following paragraphs discuss the rough time commitments required to conduct a 20- to 30-participant study during the course of one academic year.

The time commitment for librarians conducting an ethnographic study can be high depending on the scope of the study and the number of research activities to be conducted. Scheduling interviews and data analysis meetings can be particularly difficult if an ethnographic study is undertaken in addition to a librarian's normal duties. The window for data collection within the academic semester can be short, and research team members should expect to spend some period of time focusing on intensive data collection. While librarians' participation in our study varied between institutions and research team, lead researchers should expect to spend at least eight to ten hours per week working on the project, and possibly more if the lead researcher is also primarily responsible for data collection. The ERIAL librarians committed five to ten percent of their time to the study, although this often proved to be not enough time for the tasks at hand.

1.5. Research Team

The ERIAL Project was fortunate to have grant funding that covered the cost of hiring two full-time social scientists. For a multi-university study, it is probably necessary to hire a full-time staff person dedicated to the project. While any project would probably benefit from a dedicated social scientist who can ensure the depth and breadth of the data collected, in many cases the cost of employing such an individual is not feasible.

A good team will have a diverse membership: people with skills in asking good questions and interpreting data, solving problems, reporting and communication, running good meetings and dealing with conflict. Since ethnographic analysis is an interpretive exercise, people with varying disciplinary backgrounds will often have unique perspectives on the data collected. Be sure the core team members are committed to the study, and delegate responsibilities for the project, especially data collection components. Try also to keep your project team to a manageable size.

Depending on the internal organization of your library, it may be useful to include a person who has the authority to make service changes as a research team member. This will help the team know during the research and analysis process what constraints and opportunities exist in time, budgets, and decision-making authority. We were fortunate to have on our teams members of administration of our libraries (in some cases), or the blessing of library administration to carry out our project (in others). Likewise, if you already know what types of changes in library services you might implement, ensure that staff members who typically provide those services are represented on the team. The ERIAL Project was interested in reference interactions with students, so our research teams included reference librarians.

You will need to adapt your team membership and individuals' specific roles to the needs of your institution. The following are the general roles that individuals on our research teams played, with one person often filling more than one role.

Team Leader. This person sets the vision for the team, or interprets the vision set by the administration (or whomever has authority to act on what the team finds). This person's tasks are to facilitate conversation among team members, to ensure that everyone fulfills their roles as assigned (or to help remove any outside barriers that are keeping members from fulfilling their roles), to ensure that timelines are set and met, to ensure that your results are communicated

beyond the team, and to be the team's advocate as you to link the research to practice at the library. For the ERIAL project, a research team's principal investigator often filled this role.

Principal Investigator. One or more of your team members will be designated as principal investigator. This is the person most responsible for the design, implementation, analysis, and reporting for the project, and is the point of contact for your institution's Institutional Review Board (IRB). (The IRB is a committee that protects the rights of research subjects and is described in more detail below.) We suggest that you choose the person most willing and able to lead the design and implementation of the study, to ensure that it is of good quality, and, most importantly, to ensure that your research subjects' rights are protected. This likely will be the person on your team most familiar with social sciences research. Because the principal investigator serves as a liaison with the university's IRB, many universities require that this person be a member of the faculty.

Research Specialist or Consultant. On the ERIAL Project, the anthropologists fulfilled this role, but you might also ask a member of the anthropology or sociology faculty of your university to participate in this way. The research specialist helps the team understand best practices in research design. This person may take a very active role in developing the project, as well as collecting and analyzing data (as was the case on the ERIAL Project), and may even take on a leadership role as principal investigator. However, he or she may also participate simply by advising the project, and not by directing. If one of the librarians on your project team has experience in social science research, your team may not need a research specialist. However, having someone from outside the library on the research team is often very useful during data analysis. As an outsider, the consultant can play an important role by helping you see things about your issues and data that you do not necessarily see, and by being able to share opinions that library staff may not be able to articulate because they are part of the organization's hierarchy.

Designer/Technical Services Specialist. Because your team is likely interested in developing and implementing service changes, it is fruitful to include technical services specialists, web designers, information architects, etc. on your team. Having these people immersed in your data analysis process will help ensure that services that are designed respond to your data.

Note Taker. Analysis in a team setting generates a great deal of documentation which needs to be preserved for later use and analysis, such as brainstorming lists, ideas for services, and analysis memos. At each team meeting, someone should be responsible for fulfilling this role and for making sure that documentation is shared in a way that all team members can access it. On the ERIAL Project, team members took turns fulfilling this function.

Additional Team Members. Team members are there to assist in all phases of the research process from design to implementation to analysis and reporting. They should include people who are in leadership roles in the parts of the library that you will study as well as those who are not, as described above. As mentioned above, our interests focused on academic research and interactions at the reference desk, so the majority of our teams' memberships consisted of reference librarians.

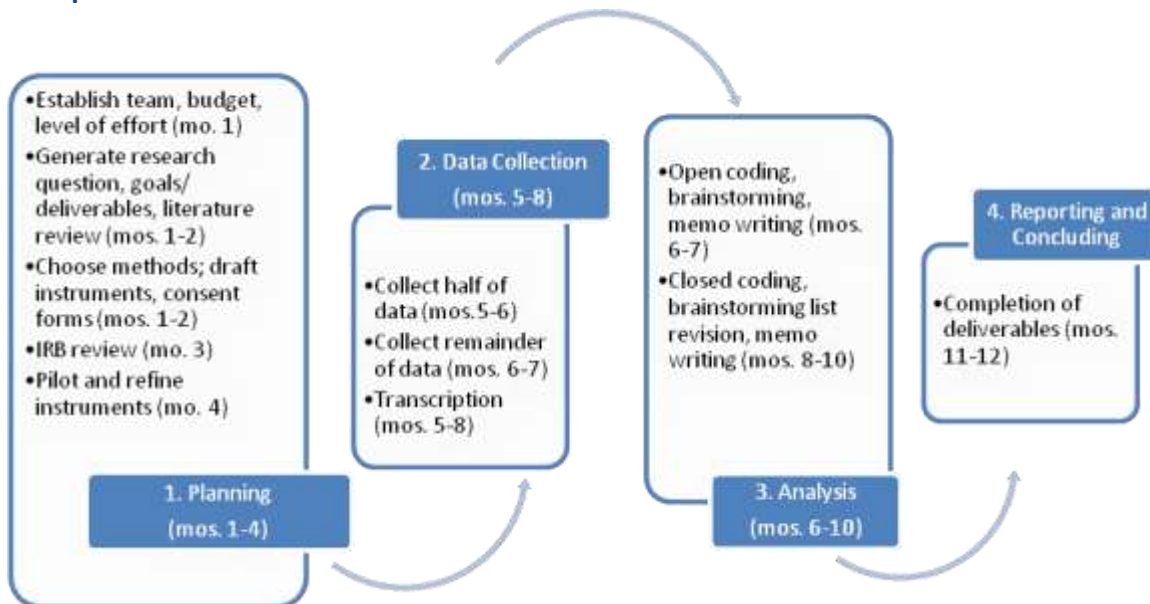
1.6. Timeline

A realistic timeline with milestones is a critical aspect of any research project. Allow for some flexibility in the deadlines (especially for data collection), but it is also a good practice to set a drop-dead date to stop data collection. It is very common for data collection activities to creep, especially as you find interesting information. However, for the overall success of your project, you must transition to the analysis phase with sufficient time to report results. Below we offer a sample timeline, the steps of which are described further in the following sections of the toolkit.

We offer a few additional timeline hints:

- The IRB review process can be lengthy. We suggest allowing at least one month, as you cannot begin data collection until you have approval.
- Allow ample time for transcription – plan on at least four hours of transcription time per hour of a one-on-one interview if you do not have a professional transcription service.

Sample One-Year Timeline



2: Pre-Project Planning: Research Design

2.1 Defining the Research Question(s)

In the enthusiasm to begin data collection, it is often tempting to rush the development of research questions. However, it is very important not to skimp on this step, as it will save you time in the long run, and will help you avoid changing your research measures in the middle of your project.

The development of the research question begins with clarifying what you know and what you do not know. We suggest, as a first step, brainstorming research questions with your research team.

Activity: Brainstorming Research Questions

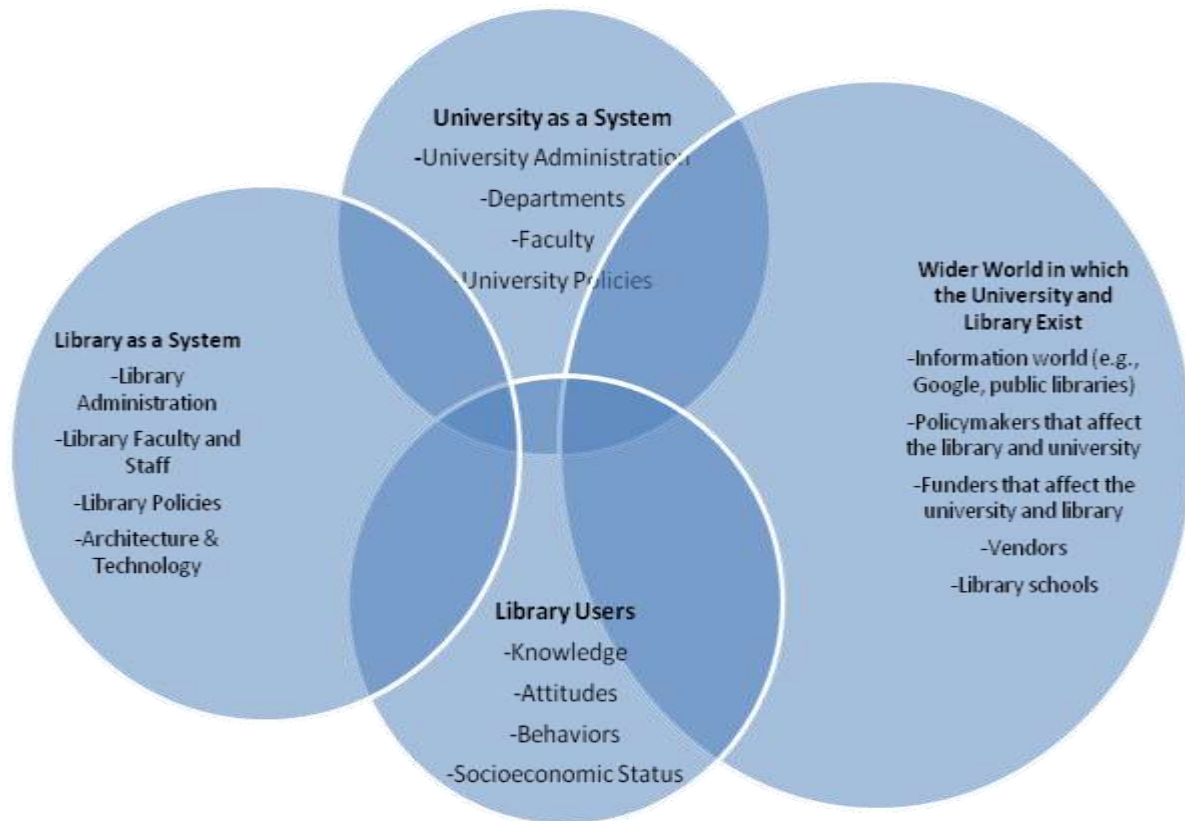
On a section of blackboard or piece of large tablet paper, draw a vertical line down the middle. On the left side, brainstorm research questions. What do you want to know about students? About faculty? About library facilities? Try not to censor ideas of what is interesting.

On the right side, come up with provisional answers to those questions. These are your working hypotheses of what is happening. It is fine at this point to recognize that you do not necessarily know the answers, but it is helpful to begin to clarify what you think you know, and to write it down.

After brainstorming your questions, you will decide which are the ones you want to answer. You might rank order questions by how pressing they are to your library, or by whether the answer to them will likely lead to service changes that you can actually implement. Developing research questions is an iterative process, so allow yourself enough sessions for earlier discussions to inform the brainstorming process. An excellent guide for developing research questions is located at LibraryAssessment.Info, a blog of the Association of Research Libraries: <http://libraryassessment.info/?p=438>.

As you are considering your research questions, you might consider their wider social context. Libraries can be understood as a collection of groups, behaviors and ideas that interact with each other. You can study them at any of these levels, as well as across levels. Whenever possible, it is good practice to triangulate your research questions by approaching them from different directions within this web of interactions.

Relationships of the Library and Its Users to Their Environments



Try to match your data collection efforts to the groups or practices you are most interested in studying. Whenever possible, link your research questions to specific, tangible, activities that can be directly observed. Avoid too many abstract questions, or questions that require speculation. Ethnographic methods usually work best when they are linked to actual events, experiences and examples.

2.2 Reviewing the Relevant Literature

A literature review is an important part of developing and refining research questions. First, you will want to gather data that your school has collected in any other surveys, focus groups, or analyses you have completed. Consider how this data informs or changes your research questions. You might also delve into the library literature on your topic. Many questions have been answered a number of times, so reviewing other studies will acquaint you with how others have tackled your problem, giving you ideas for methods as well as showing you aspects of the problem you may not have considered. If you intend to publish your results, this is an important step to take early on, as you will have to explain how your research responds to the existing literature. Set a goal for how complete you want your literature review to be, so that you will know when to stop.

As with any research process, you may have to go through these steps of developing research questions, deciding what is important to you, and then going to the literature and refining your question more than once. As you know from working with students, research is an iterative

process. The more specific you can be about what it is you think you know and what you want to know, the more prepared you will be to analyze your data.

Activity: Literature Review

After you have defined an initial topic or research question, ask each member of your team to find one relevant article from the library literature, or to review one study your library has completed. Combine the following information from these resources in the following table:

Our team’s topic or research question (so far):

Literature to Build on

Citation	Methods	Subjects	Results & Conclusions	Critique of this article (what was solid about, or problems with, its methods and analysis)	Ideas this article gives us about our research topic/objectives	Ideas this article gives us about our methods
Article 1						
Article 2						
Etc....						

It is also good at this point to think about your research objectives. Think about the outcomes you want to have from your project. Is it exploratory research to get to know your students better? Do you want to have evidence to support new services or change old ones? To make changes in your library’s space? To develop a new curriculum? A good exercise is to imagine yourself after a successful project. What information will you have? What types of changes will you have made? How will your students understand or experience the library differently? It is helpful to know what you will do with your data when you are designing your research, both in terms of what information you will need in order to make service changes and in terms of what you want any report you write to look like. It is fine, for example, to have as one goal a full description of a process or event, but define what would be ‘full enough’ for your purposes in order to determine what data you actually gather. Once you define these objectives, choosing your participants and your research methods will become easier.

2.3 What kind of participants?

When deciding who you will collect data from, you might seek respondents who have special knowledge of an event (e.g. how your library came to have a close working relationship with the campus writing center). These interviewees are called key informants. Alternatively, you might interview respondents who have had a particular experience, such as students who have completed research papers. If you are interested in how a process occurs that involves multiple groups of people, you will likely want to gather data from members of these different groups, in

order to understand how their different positions shape the process. Consider, too, whether you want to talk to respondents who exhibit a range of characteristics (e.g., students of different socioeconomic backgrounds). How important these characteristics are will determine how you find your respondents. While you can just interview those participants readily available to you, this may result in a sample that is less useful than a sample that includes those who are harder to reach. At some of our universities, we found that our initial recruiting effort--an email sent by the library to all students--only generated responses from those students who were most proud of their ability to do research. We began to recruit students by going to schools' student centers and screening them in order to find those with the research habits in which we were interested (e.g., making sure that we talked to students who completed research projects but who had never used the library's services).

2.4 How many participants?

In qualitative research, much has been written on sample size, or the number of participants to be recruited. Full discussion of the topic is outside of the scope of this toolkit (see the bibliography below for more information). In short, you should strive for a sample that is as representative as possible of the population you are studying. However, given the realities of recruiting for a qualitative study, it is unlikely that you will be able obtain a sample that is statistically representative. This is due to the fact developing and executing a sampling frame that is sufficiently random is usually practically impossible (in terms of time and money), especially for a small research team. In any case, given the commitment required of participants in qualitative studies, these methods almost always have a built-in bias that oversamples for people who are willing to discuss the details of their lives with a relative stranger.

This being said, the power of qualitative methods lies in the depth and nuance contained in the data obtained. For this reason, even a small sample provides useful and potentially actionable information for your library. Every interview or research activity gives you more information than you had before, and insight into what life is like for that particular individual.

After a few interviews, you will likely start to see definite patterns emerging. Many of these themes will probably align with observations and hypotheses you had when you started the research. However, new themes and research questions will (hopefully) also emerge. A good rule of thumb is to continue interviewing research subjects until no new data themes emerge--at this point you have probably reached "saturation" on your topic, and have a picture that begins to reflect a range of responses present in your population. Note that this will not necessarily tell you how many participants in your population act or think a certain way, but you will have a deeper and broader understanding of how a situation occurs and what it means to those involved in it.

2.5 Recruitment

In recruiting participants, the ERIAL Project found student listservs to be effective, especially those that were targeted to specific student groups. When possible, we sent invitations to students individually, and we also recruited students using sign-up sheets in library information sessions. Whenever a student participated in one of our research methods, we always asked if we could also contact them for other research. A short research method such as the cognitive mapping exercise (see below), is often a useful way to generate interest.

In general, we also found that offering students an incentive—usually a \$10 gift card—was very useful in recruiting. Incentives should be gauged for appropriateness to the research method: high enough to attract participation, but not so high as to become an undue influence on the research (i.e. by creating economic pressure on participants to complete the research—IRBs generally have guidelines). While incentives do add cost to the research, we believe that the cost of a relatively small incentive is well worth the time and effort saved in recruiting and retaining student participants.

For example, while offering a free coffee drink at the library coffee shop as an incentive, one of our participating universities was experiencing a problem with no-shows at interviews, with as many as 50 percent of students failing to come to their scheduled interview. However, after offering a \$10 gift certificate to a café or bookstore, the no-show rate dropped to nearly zero. This was not true at some of the other schools, however, possibly because students there tended to work part-time or full-time. In short, there is no one right answer and the effectiveness of different approaches will vary by setting.

2.6 Choosing Research Methods

In ethnographic data collection, it is common to collect data by multiple methods in order to evaluate the strength of the conclusions from more than one angle. For example, researchers often interview participants and observe them directly, since interview responses do not necessarily match behaviors. The table below lists several types of data collection methods that we used in the ERIAL Project, with brief descriptions and discussions of their relative strengths and weaknesses. No matter how many people are on your team, you will always be constrained by the time it takes to collect ethnographic data. It is therefore important to match the methods you use to your research questions so that you can use your time as effectively as possible.

ERIAL Project Research Methods¹

Method	Description	Strengths & Weaknesses
Interviews	Ethnographic interviews can be unstructured, semi-structured, or structured (see below for details). This one-on-one method requires only a general guide for the interviewer to follow.	Probably the most flexible and best all-around method. Can be adapted on the fly, and cover a variety of topic simultaneously. Can be tailored to time available. Requires rapport between the interviewer and interviewee, and participants who are willing to talk at length with a potential authority figure.
Photo Diaries	A photo is an elicitation tool – something that will jog the interviewee’s memory of detail	Good for learning more about students’ lives. Can be invasive.

¹ The Photo Journals, Mapping Diaries and Retrospective Research Paper Interview were adapted from protocols developed by Nancy Foster and the “Studying Students” research team at the River Campus Libraries of the University of Rochester. The ERIAL Project would like to express its thanks to Nancy Foster, Susan Gibbons, and the members of the University of Rochester research team for sharing these protocols with our project. For more information on the University of Rochester study, see Nancy Foster and Susan Gibbons, [Studying Students: The Undergraduate Research Project at the University of Rochester](#) (Chicago: Association College and Research Libraries, 2007).

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	about a person, place or event. The photo diary method involves loaning each respondent camera and asking them to take a short set of photos over the course of several days. After participants take the photos, follow-up interviews elicit responses to the contents of the photos to learn about the context in which a process is happening.	Requires multiple contacts with students and additional equipment.
Mapping Diaries	A map is another elicitation tool. In this case, the respondent is given a map of an area pertinent to the research question and asked to track their movements over the course of a predetermined period of time (e.g., a day). Afterward, an interview elicits responses to the map.	Good for quickly learning about how and where students spend their time. Requires multiple contacts with students, and commitment from students to accurately report movements.
Research Journals	Designed for study of the research process, a research journal is kept by a student while he or she is completing a research assignment. The student makes an entry every time he or she is working on the assignment, and the journal is collected at the completion of the assignment.	Provides a real-time account of an assignment. Requires a high level of student commitment to report activities accurately.
Participant Observation	The researcher spends time with the research participants interacting with them and participating, as much as possible, in the activities that are of interest. A complex data collection method, participant observation involves taking field notes or other recordings, and unstructured interviews. In the ERIAL Project, we came closest to participant observation as we observed and interviewed students who were searching for research materials in our libraries.	Best for complex processes that are difficult to accurately report retrospectively (e.g. search processes). Also helps avoid distortion and inaccurate reporting of practices of which the participant feels the researcher might be critical.
Cognitive Mapping	The respondent is given a blank piece of paper and is asked to draw a map of the area of interest, whether a library, room, or campus. For the ERIAL project, the respondent was given a blank piece of paper with short directions at the top, along with blue, green and red pens. The respondent was then given six minutes to draw a map from memory, and asked to change the color of their marker every two minutes. This approach allowed the researchers to learn which elements of the map students drew first, second and third, and provided both spatial and temporal data about how respondents conceptualized spaces.	Fast and relatively easy to conduct. Requires little time commitment for students. Results can sometimes be ambiguous or difficult to interpret.
Retrospective Research Interviews	In the retrospective research paper interview, participants are asked to give a step-by-step account of how they completed an activity while drawing each step on a large sheet of paper,	Good for focusing on activities that involve step-by-step processes. Requires accurate recall from students.

	producing both a narrative and a visual account of the process from beginning to end	
Focus Groups	A focus group is a group interview. In our project, we used focus groups to examine website design and library space use.	Gathers a lot of data quickly. Relatively easy to plan and organize, and requires limited time commitment. Group dynamics must be managed carefully to avoid “groupthink.” Some participants may self-censor in a group setting.

In qualitative research, available methods are limited only by the creativity and experience of the researchers. Previous studies can be an excellent resource for building your understanding of new methods. Several example studies are included in the bibliography below.

2.7 Developing an Instrument

If you have chosen a method that involves an interview, you will need to develop your instrument, i.e., the set of questions you will ask each participant. Qualitative interviews ask open-ended questions that allow respondents to describe events, reflect on their experiences, and trace the development of current situations. These interviews can be unstructured, semi-structured, or structured:

- Unstructured interviews look like a conversation. They are interviews—the interviewer wants to obtain particular information from the interviewee—but the interviewer allows the respondent significant latitude in directing the conversation. This type of interview allows you to follow the respondent’s ideas and train of thought most closely.
- In semi-structured interviews, the interviewer has a list of questions to ask in a particular order, but follows them flexibly according to what seems appropriate, following up on interesting responses from the interviewee. Likewise, the wording of the questions can change. If you are working with a team in which more than one person will be conducting interviews, it may be helpful to use semi-structured interviews in order to ensure that all of the topics of interest are covered in an agreed-upon way. Likewise, if you have a fairly focused research question, this may be better for you than unstructured interviews.
- In structured interviews, the interviewer retains the most control, asking each question in exactly the same way of every respondent and following a given order. These interviews are comprised of closed-ended questions, in which pre-determined answer choices are made explicit to the interviewee. Closed-ended questions are more often used in quantitative analysis and are not described further here.

You might keep the following guidelines in mind as you develop interview questions:

- Once you decide what topics to cover, consider what subtopics you would like to cover as well.
- Think about the level of detail you want to get in each question, and how the answer will help you respond to your overall research question.
- Think also about what kind of detail will be useful to include in any report that you write.
- Ask questions about specific experiences that respondents have had. The strength of qualitative interviews is the depth of detail that they elicit. It is not bad to ask students

how they feel about librarians in general, for example, but you are more likely to get a detailed answer if you prompt your respondent to talk about the last time they worked with a librarian.

2.8 Piloting an Instrument

Do not forget to test all your research measures. Share your questions with other librarians, and conduct test interviews with your respondents to determine any confusing or misleading questions. This is called “piloting” your instruments. Make changes as necessary, but remember that no questionnaire is perfect, so it is also often useful to include some redundant questions, as different approaches work for different individuals. You might watch videos of your first interviews together as a team, thinking about whether you are getting information that is useful and where you might add additional questions to get further detail.

2.9 Elaborating Tools/Adding Questions as the Research Progresses

One of the strengths of open-ended ethnographic approaches is the ability to adapt research in progress to investigate topics uncovered as the research progresses. It is okay to add additional questions, or to remove questions that are not working. As you are reviewing early interviews, consider where your respondents offered similar, or the same, answers to questions. You might add probes to uncover more diversity in responses. If respondents are offering different answers to questions, you might add questions to find out why their responses differ.

2.10 Anthropological Ethics and IRB Considerations

The most important part of the research process is to ensure that your research subjects consent to being part of it. This consent process involves asking for their permission to include them in your project, explaining the purpose and methods of the research, how their data will be used, whether there are risks or benefits to them, and how their confidentiality will be protected. While written consent is not always necessary, we recommend it as a best practice unless there is a specific reason waiving written consent. If you intend to use images or video of the research subjects you will likely also need a secondary consent and release form.

Maintaining confidentiality is also important to protecting subjects’ rights. One of the easiest ways to do this is to develop a system for assigning unique numeric codes to participants. These codes should then be used on all transcripts, audio/video files, analysis documents, etc. The key that links the number to participant contact information should be kept in a password-protected file that is separate from all other data, and should be destroyed after data collection is complete.

Ethnographic methods differ from others in that you may get to know your subjects well. Your subjects may open up, telling you things about themselves that they do not necessarily share with others. For example, we had one student who was candid about how they decided whether or not to plagiarize. As a researcher, your first duty is to protect the confidentiality and rights of your subject. It would be considered unethical, in the case of a plagiarizing student, to tell the professor that that the student had cheated. We suggest caution when dealing with sensitive or personal identifying information. You can not necessarily stop your participant from bringing up personal topics, but you can avoid asking about subjects that do not have direct bearing on your research questions. Evaluate if you need a piece of information before collecting it.

Your university will also have an interest in the rights of your research subjects. An Institutional Review Board (IRB) is a committee that exists to protect the rights of research subjects. If you are going to collect data from human subjects you must submit a copy of your research protocol and consent form to the IRB for review and approval, and you must receive this approval before you begin to collect any data.

IRB approval processes vary widely by institution, and you will need to meet the local expectations of your university's IRB committee. In general, you will need to designate one or more principal investigators who will be responsible for ensuring the integrity and efficacy of the project. This usually must be a faculty member of the university. In most cases, ethnography in a library setting will fall into the "exempt" category of research, which allows for expedited review when the risks to participants are evaluated as minimal.

IRBs will require copies of the protocols for your research measures (e.g. interview guides, survey questions, descriptions of open-ended research). The research measures do not always have to be the final versions of those documents, but you should expect them not to change significantly from what you are submitting to the IRB. An IRB will also require a copy of the consent form.

IRBs will usually require that you develop a plan for the usage and dissemination, and retention of your data in advance. While there are no specific guidelines, a good rule of thumb is to destroy recordings after five years. Transcripts can usually be retained indefinitely, as can datasets containing no identifying information. Check with your local IRB for guidelines on how long you should retain consent forms and other documents (IRB files are often routinely destroyed a certain number of years after research is complete).

After you submit your research for approval, most IRBs will respond with additional clarifying questions before approving your project.

Although the IRB process can sometimes be time consuming, it is an important (and legally required) aspect of maintaining research ethics. Try to have patience, and whenever possible *start the process early*.

2.11 Choosing Equipment

Once you have decided on your data collection methods, you should consider your equipment needs. While you do not need much specialized equipment for an ethnographic study, purchasing high quality equipment and software is usually worth the money. Be sure your equipment meets the specific needs of your research methods. If possible, test equipment in the environment where you will use it before purchasing. This is especially important with recording equipment, which can have microphones that vary widely in quality and range. When possible, buy equipment that has the capability to record from external microphones, as these can help immensely in creating quality recordings in noisy environments. Because our video cameras could only use their built-in microphones, we were continually frustrated by the poor audio quality of many of our interviews. Also, be aware of cross-platform compatibility of digital files (especially video), and be sure any editing software you plan to use is compatible with your recording format.

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In the ERIAL Project, each university's "kit" included one project laptop, one digital camcorder, four digital cameras, one digital voice recorder, and one direct-to-disc DVD burner.

The project also purchased two laptops with specialized transcription software with foot pedal controls. These controls greatly increase transcription quality and efficiency, especially if you have a large number of interviews. If you expect to collect a significant amount of transcribed data, qualitative coding software (such as Atlas.ti or NVivo) is also very useful for managing data, as well as developing analysis frameworks and discovering connections between research themes (more on this below). These software packages can also be used in coding other types of visual data such as student drawings.

3. Collecting and Transcribing Data

3.1 Collecting Data

While the specifics of collecting data will vary depending on the research method used, a general model for any interview-based method is as follows:

The researcher and participant meet at an agreed-upon location. This location should be reasonably private in order to ensure the participant's confidentiality and quiet enough to allow for good quality recordings. A "neutral" location such as a conference room or group study room works well as some students are uncomfortable meeting in a faculty office. The location should have all the equipment required for the interview, and the researcher should arrive early to set up and test any equipment.

Once the participant arrives, the researcher should briefly explain the research, and should present and explain the consent form, highlighting how the data collected will be used and retained, and how the participant's confidentiality will be protected. The participant should be given time to read the form, and the researcher should answer any questions the participant has. If you are offering incentives you should also give them to the participant at this time.

After the consent forms are signed, the interview can begin. It is usually a good idea to open with a few "ice breaker" questions that are not directly related to the research. These questions are used to build rapport with the participant, and to get the participant used to talking to the researcher and being recorded. These can be simple small-talk type questions such as: "Tell me a little about yourself"; "What kind of hobbies do you have?"; "What do you like to do in your free time?"; "How did you choose your major?"; "Tell me about the music you like?"; or "What was the last book you read for something other than school?" Try to make the participant feel comfortable talking—the first few minutes of an interview can be intimidating. Participants will vary considerably in how fast they get used to discussing themselves with the researcher: some people will be very forthcoming immediately; others will take longer. Some interviews will be more successful than others, and you will sometimes have interviews that do not work for whatever reason. This is part of the ethnographic process, and should not worry you too much.

Prepare an interview guide in advance so that you can make sure you cover all the topics you want to address. Unless you are conducting structured interviews, it is usually best to use this guide as a reference rather than a script, and to allow the interview to flow as naturally as possible from topic to topic.

In the first few minutes of the interview, be sure to double check if your recording equipment is working. It is a good idea to have backup equipment and supplies (batteries, etc.) available.

Be mindful of the timing of the interview so that you can cover all your topics in the time allotted. Try to avoid making interviews that are too long. Forty-five minutes to one hour is usually as long as many people will want to participate.

Once the interview is complete, be sure to thank the participant for their time and to remind them of your contact information should they have any future questions.

3.2 Transcription

While it is sometimes possible to work directly with audio and video files, most interviews will need to be transcribed for effective analysis. To relieve the burden on the research team, we highly recommend hiring an experienced transcriptionist if at all possible. In general, working with an experienced transcriber will pay dividends in speed and accuracy, even if their hourly base rate is higher. While a professional transcriber is preferable, utilizing student assistants can also be effective. However, transcription work is often more difficult than many people initially think, and turnover can be high with inexperienced transcribers.

4. Analyzing Data

4.1 Ethnographic Analysis

Ethnographic analysis involves description and interpretation of how participants go about their daily lives. You should begin analysis while you are collecting data in order to refine your interview questions, but you will do more once you are done.

4.2 Coding

Analysis of ethnographic data begins with a process of coding. This is the generating of words and short phrases, called codes, and assigning them to sections of interview text in order to summarize and/or interpret the meaning of the text. We describe a process that begins with open coding, to uncover patterns that arise in the data, and moves to a process of closed coding, to elaborate on those initial patterns and solidify understanding of the relationships between themes.

4.3 Open Coding

Most coding processes begin with open coding of transcripts. During open coding, the researchers go through the texts and code all sections that seem important or relevant. These codes are not limited in scope, and the researchers are free to add any codes and themes they deem necessary. The purpose of open coding is to discover themes and patterns within the data, which will usually begin to appear relatively early in the process. While doing open coding, researchers should be careful not to limit their codes to predetermined themes, or a preconceived hierarchy (this comes later). Instead, if it seems important or interesting, code for it. The idea is to open up your understanding of what is being said in the data and to allow you to be attentive to the meanings that participants ascribe to their experience. This being said, it is usually a good idea to have a basic framework in mind that will aid you in organizing the codes later. You might begin with what Miles and Huberman call a “start list” of codes (1994: 58) that you generate from your research question, or from a pre-existing theory you may have about how a particular process will happen, or what meanings individuals may assign to their experience.

Some codes are descriptive – they summarize what is happening, what someone is doing or what someone is saying without a lot of interpretation (e.g., “browsing the shelves,” “getting help,” “reference interaction”). Other codes are interpretive – they are about what a respondent’s behaviors or thoughts seem to mean to participants. Codes may be about someone’s attitude (e.g., “excitement about research project”). They can be about symbols and values (e.g., “book as symbol for the library’s purpose”). Codes can be about consequences that result from acting or not (e.g., “not finding information → changing research topic to fit what is found”). Your codes can be your own words (e.g., about use of particular sources – “books”) or words that participants tend to use (e.g., about how some students describe borrowing books from the library - “renting books,” or “search engine?” as a code when you see a student use that term to describe any interface with a search box). You can approach coding by going through the data and coding everything that seems important. Or, you can select a particular process that is of interest to you, e.g., how students get help when doing research, highlight all of the relevant sections of text, and code only those sections of text. We provide an example below

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Open coding tends to produce a great number of codes, some of which will be useful to answering your research questions and some of which will not. You will also likely create some redundant and unnecessary codes. After you feel that you have a working list of codes that adequately describes your data, you should organize the codes into a thematic hierarchy that groups codes related to similar topics. This will allow you to combine redundant codes, eliminate codes that are not relevant to your research topics, and to create new codes to address any gaps you discover. At this point, you will also be able to cross-reference any codes that fall into multiple thematic categories. Fortunately, much of this organizational work can be automated using coding software.

Example of Open Coding

In this example, we first highlighted sections of interviews related to the theme of “getting help” on the left. Then, for those sections of text, we created codes on the right. These codes relate to what students and helpers are doing when students get help, or what seems important to them.

Interview Excerpt

I: So, how did you find the different, you said it was articles that you were reading?

R: For this, I started with a few books and I talked to my advisor who put me in touch with a few of his friends who work in this area and I contacted them and they suggested one was a sort of a edited volume of articles on the area and for that I just mostly just followed reference lists to more stuff that was that I found relevant.

I: Do you remember the last time you worked with a librarian on a research question?

R: I don't know if I ever have. I don't think I have.

I: Never in the whole time....?

R: Yeah, I don't think so.

I: Why don't you think you ever went to a librarian?

R: I don't know. I remember a librarian coming in, speaking a few times in some of my classes towards the beginning of the semester about how you guys are going to do this research and this is some of the tools the library has to offer you and I felt that the librarians were very helpful and friendly and stuff but at the same time I didn't interact with them on a daily basis or anything. So to me when I'm thinking about like I don't know what I'm looking for or something, that just wasn't the first thing that came into my mind, I guess. I don't really know.

Examples of Codes

- *Getting help from prof*
- *Professor values putting student in touch with other scholars*

- *Not asking for help – despite having had instruction*
- *Not asking for help—due to lack of relationships with librarians*

4.4 Memoing

Throughout the coding process, the researcher is writing memos about the data that explore what different concepts mean, and range in length from a few sentences to a few paragraphs. Memos can elaborate on the meaning of a code in various transcripts, or relate different codes to each other. For example, memos are useful for comparing how individuals' words and behaviors do or don't seem to match each other, and how different members of a group may see a situation similarly or differently. They help the researcher explore, more fully than codes, what he or she is learning during the research process.

4.5 Closed Coding

Once you have a final list of codes, you should select those themes that are most important. These may be the themes that have recurred most frequently in the data, or which seem most important to participants or to other groups.

You then apply the codes that fall under these themes to all your transcripts in a process called closed coding. During closed coding, the researcher only uses codes from a predefined list (in this case the list you have generated during open coding) and uses only these codes. The goal of closed coding is to create a standardized group of codes across all of the transcripts so that all the data under analysis can be queried in a uniform fashion. If any codes are added at this point, they must be retroactively applied to all transcripts.

Even with the help of specialized software, coding is a time consuming process. However, it is not simply drudge work that must be completed (although it can sometimes feel like it). Instead, coding should be seen as a first and vital step in data analysis, as it creates a framework of meta-data that guides later stages of analysis and reporting, and helps break down what can often seem like an overwhelming amount of information into more manageable pieces.

When working in a large group, it can be difficult to maintain a standard set of coding language between individuals. For this reason, it may be advisable to delegate coding responsibilities to a small number of individuals to avoid developing multiple coding systems which must then be combined. In the ERIAL Project, the project anthropologists were responsible for coding the transcripts and ensuring consistency between the universities, but the project's librarians also took turns generating codes prior to analysis meetings.

4.6 Analysis Meetings

Once your data is transcribed and sufficiently coded (and even before), your research team should begin having regular analysis meetings. We recommend meeting weekly, as one of the greatest benefits of our study came simply from regular meetings to think deeply as a group about library issues. Meeting weekly will also keep the project moving.

Analysis meetings should be primarily used for discussion and brainstorming, and participants should plan on preparing materials in advance.² In the ERIAL Project, each weekly meeting typically addressed a specific theme. Team members were assigned a group of transcripts to

² The ERIAL Project would like to thank Nancy Foster for sharing the brainstorming and co-viewing strategies she developed at University of Rochester with us.

become “expert” in, and would be expected to read these transcripts each week looking for information that related to the theme. In addition to these transcripts, the anthropologists also queried the interviews with the qualitative analysis software to prepare a report of data relating to the theme under discussion that research team members were expected to review before the meeting.

Example: Weekly Research Team Meeting Analysis Summary Format

We used the following format to guide and summarize our weekly brainstorming meetings:

Weekly Research Team Meeting Summary, date

Topic of Meeting

What Did We Learn?

General Observations

Patterns Found in the Data

Exceptional or Interesting Cases

Hypotheses about the Data

New Research Questions (either to use on this data or for a study later)

Service Implications (e.g. how can library address any problems observed)

Additional Analysis Required?

Additional Comments

The core of the ERIAL Project’s analysis involved brainstorming from the data. In the brainstorming sessions, we first listed all the important observations about a particular theme. We then listed any important patterns and commonalities we saw in the data. Next, we discussed what service changes might be made to address these observations and patterns. Finally, we listed any additional research questions that needed to be answered.

During the meetings, we captured our brainstorming results in a Word document for later use. Within these sessions, we agreed to a principle of no censorship, all ideas were listed, even if they seemed impossible, crazy, or silly. At this stage of analysis, it is most important to get as many ideas on the table as possible, and it is impossible to predict what might spark a great idea.

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In order to maintain an open dialog, it is probably best practice to treat these meetings as confidential, to agree that institutional hierarchy does not apply in the meetings, and for discussions at this level to stay among team members.

Following an analysis meeting, one member of the team (usually the anthropologist) was responsible for writing an analysis memo that summarized the discussion in a more formal way. Together, the brainstorming documents and analysis memos provided the basis for discussions about potential service changes in the library, which are described further below.

4.6 Co-Viewing

In addition to the analysis meetings described above, the ERIAL Project teams spent considerable time watching the videos of recorded interviews as a group. This was particularly fruitful when analyzing interviews in which students demonstrated their search process for an assignment they were currently working on. Whenever a team member wanted to comment on something he/she saw, the video was paused for discussion. A note-taker preserved this discussion, and some of the team used these notes to produce thematic maps of the interview.

As with coding and data collection, there is no single right way to manage ethnographic analysis, and you will need to adapt this model to the work processes of your team.

5. Generating Services Changes & Presenting Conclusions

5.1 How to Develop Service Changes from Ethnographic Data

In the ERIAL Project, we developed ideas for service changes in our weekly team analysis meetings as described above. Generating services change ideas at the same time as the analysis allowed us to create services that responded directly to real students' experiences. At the end of our analysis processes, we also created master lists of services changes, as in the example below. These lists were then used to communicate with librarians, staff members, and other stakeholders within the library, and as a way to begin conversations about how to effectively implement new service initiatives.

Example: Master List of Services Implications

After generating a list of potential services changes, we went back to the data to list reasons why each was important, and members of the research team ranked each potential change by importance and feasibility to determine which ones to pursue.

Potential Service Change	Why Important?	Importance	Doability	Need More Evaluation Before Implementing
Continue to strengthen relationships with faculty, explaining library services and resources.	Professors see students 1 - 4 times weekly, assign grades, and are seen by students as experts. If professors recommend librarians, library resources and services, students may pay attention. Also, as faculty learn about services/ resources, this may impact how they design assignments	3	2	1
Work with faculty on developing assignments (e.g. faculty workshops, informal sessions)	There is a wide range in quality of assignments; not all faculty are as familiar with our resources as they could be and so assignments aren't nicely using our collection or as defined as they might be; see above	3	1.5	1

As we have discussed above, ethnographic analysis is not meant to provide you with certainty about the percentage of individuals in a population that engage in a particular behavior or hold a particular belief, and it is important to be mindful of this limitation when moving from analysis to services design. For example, if a few students you interview say that they go first to their friends when asking for help with a project, this does not necessarily mean that most students at your school do this.

You will need to decide what services ideas you have produced that you are willing to implement based on your ethnographic data, and in what cases you will want further study before committing to a given services design. Ethnography's primary purpose is to collect rich data in order to expand theories about how and why the social world works as it does. Due to the focus of this method it can be difficult to extrapolate from this data to a larger population. It is therefore prudent to exercise caution when moving directly from ethnographic data to services design, and we suggest continuing to evaluate the impact of the changes as they are implemented.

5.2 Using Ethnographic Data to Support Recommendations

Ethnography is not only the method of data collection; it is also the finished product of this work. Writing a traditional ethnography is not a necessary product of the work that you are doing, and so we focus less on it here, but you can borrow from that style of writing to convey what you have learned in a compelling way.

To create an ethnography, the writer selects from the organized codes and memos to explore a part of their research. You will not use all of the codes that you have generated. The goal is to tell the story of how participants understand a specific part of their experiences and also to explain their behavior in a way that is understandable to someone who is not a member of their group. It is not necessary to produce an argument so much as a narrative. As you write, your text will be most powerful when you include excerpts from interviews that show your reader what the participant is doing or feeling. If you have permission, you can also include photographs, maps or other data gathered. The writing provides examples that show variations within a theme, as well as counterexamples, and the narrative progresses from one theme to another, explaining the interrelationships of these themes. The resulting product should read as a coherent story of a part of participants' experience, and should provide vivid detail and interpretation of the observed events.

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Additional Resources

ERIAL Project Website

<http://www.erialproject.org/>

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