

Cognitive Ethnography

ACN 6V81 - *Special Topics in Applied Cognition
and Neuroscience*

EMAC 6375 - *Research Methodologies in
Emerging Media and Communication*

Syllabus - Fall 2015

Course and Instructor Information

Meeting Time: Monday, 7:00pm-9:45pm

Meeting Location: ATC 2.602

Instructor: Professor Matthew J. Brown (mattbrown@utdallas.edu)

Course Website: <http://classes.matthewjbrown.net/cognitive-ethnography>

Office Hours: Monday-Tuesday 5:00-6:00pm, JO 4.120, or by appointment

Schedule an appointment: <http://doodle.com/mattbrown>

Course Description

Cognitive Ethnography is a method for the study of cognition in everyday activities. Students in this course will learn to observe, document, and analyze cognitive processes in real-world settings. The course will challenge the assumption that cognition can be studied independent of cultural and ecological setting, social interaction, communication, and the body. We will build an understanding of the interaction between culture, cognition, and communication based on cognitive ethnographic methods, and on theories and concepts from distributed cognition, cultural psychology, and situated learning perspectives that provide the foundations of cognitive ethnography. The use of these methods and theories to study media, engineering practice, scientific research, human-computer interaction, and system design will be emphasized.

Student Learning Objectives

1. Students will learn and practice the qualitative methodology of **cognitive ethnography**. (Assessed via Cognitive Ethnography Project)
2. Students will gain the basic knowledge of **embodied, situated, and distributed cognition** approaches. (Assessed via participation in class discussion of readings and Cognitive Ethnography Project)
3. Students will produce **original research** on a field site relevant to their curricular interests using cognitive-ethnographic methods. (Assessed via Cognitive Ethnography Project)
4. Students will learn to engage in the professional academic practice of **peer review**. (Assessed via Peer Review Assignments)
5. Students will learn the basics of **ethical conduct of human subjects research**. (Assessed via Ethics Training component of Cognitive Ethnography Project)

Textbooks and Readings

There is only one book you are required to order for this course:

- Edwin Hutchins, *Cognition in the Wild*

The book has been ordered at Off Campus Books, and likely cannot be found at the on-campus Follett University Bookstore. This book is available electronically through MIT Cognet, which you access through the UT Dallas Library. All other readings will be provided electronically as PDFs. It is my recommendation that you purchase a physical copy of the book, and you print all of the articles, as the research seems to show that paper texts are more effective cognitive artifacts for scaffolding learning and recall than most digital texts. Alternatively, you may use a distraction-free eReader to access the texts.

Detailed Schedule of Readings

1. 8/24 - **Introduction: Cognition? Ethnography? Cognitive Ethnography?**
 - Read *Cognition in the Wild* (CitW), Introduction and Chapter 9.
2. 8/31 - **Situating Cognition**
 - Jean Lave, “What’s Special about Experiments as Contexts for Thinking?”
 - Jean Lave et al. “The Dialectic of Arithmetic in Grocery Shopping”
3. 9/7 - *Labor day holiday*
4. 9/14 - **Distributed Cognition I**
 - Read CitW, Introduction, Chapters 1-4
 - For the perplexed: Edwin Hutchins, “Cognition, Distributed.”
5. 9/21 - **Distributed Cognition II**
 - Read CitW, Chapters 5-7
6. 9/28 - **Distributed Cognition III**
 - Read CitW, Chapters 8-9
7. 10/5 - **Transcription and Professional Vision**
 - Elinor Ochs, “Transcription as Theory”
 - Charles Goodwin, “Professional Vision”
8. 10/12 - **Cognitive Ethnography of Science I**
 - Bruno Latour, “Visualization and Cognition”
 - Bruno Latour and Steve Woolgar, “An Anthropologist Visits the Laboratory”
 - Morana Alac and Edwin Hutchins, “I See What You are Saying”
9. 10/19 - **Cognitive Ethnography of Science II**
 - Nancy J. Nersessian, “The Cognitive-Cultural Systems of the Research Laboratory”
 - Nancy J. Nersessian, Wendy C. Newstetter, Elke Kurz-Milcke, Jim Davies, “A Mixed-method Approach to Studying Distributed Cognition in Evolving Environments”
 - Elke Kurz-Milcke, Nancy J. Nersessian and Wendy C. Newstetter, “What Has History to Do with Cognition? Interactive Methods for Studying Research Laboratories”
10. 10/26 - **Cognitive Ethnography of Design**
 - James Hollan, Edwin Hutchins, and David Kirsh, “Distributed Cognition: Toward a New Foundation for Human-Computer Interaction Research”
 - Linden J. Ball, Thomas C. Ormerod, “Putting ethnography to work: the case for a cognitive ethnography of design”
 - Stephen Viller and Ian Sommerville, “Ethnographically informed analysis for software engineers”
11. 11/2 - **Cognitive Ethnography of Education**
 - Robert F. Williams, “Using Cognitive Ethnography to Study Instruction”

- Sherry I. Pittman, “A Cognitive Ethnography and Quantification of a First-Grade Teacher’s Selection Routines for Classroom Management”
 - Bruce Dubbels, “Cognitive Ethnography: A Methodology for Measure and Analysis of Learning for Game Studies”
12. 11/9 - **Cognitive Artifacts**
- Andy Clark, “Cognitive Technology”
 - Edwin Hutchins, “Cognitive Artifacts”
 - Edwin Hutchins, “Imagining the Cognitive Life of Things”
13. 11/16 - **Cultural Models**
- Dorothy Holland and Debra Skinner, “Prestige and intimacy: The Cultural Models behind Americans’ Talk about Gender Types.”
 - Naomi Quinn, “How to Reconstruct Schemas People Share, From What They Say”
14. 11/23 - *Fall break*
15. 11/30 - **Interaction & Embodiment**
- Charles Goodwin, “Action and embodiment within situated human interaction”
16. 12/7 - **Embodied Animal Cognition and Human Origins**
- Christine M. Johnson, “Observing Cognitive Complexity in Primates and Cetaceans”
 - Edwin Hutchins, “The role of cultural practices in the emergence of modern human intelligence”

Assignments

1. **Cognitive Ethnography Project** – The main assignment for this course will be a multi-step cognitive ethnography. During the early part of the course, you will be required to choose a field site to conduct your cognitive ethnography. You will spend at least a few hours at for field site each week during the term. At several points you will be asked to turn in activities that focus on different cognitive-ethnographic methods, such as field notes, photo documentation, video documentation, interviewing, transcription, and analyzing cultural models and activities. These parts will culminate in a final report. (See handout)
2. **Attendance and class participation.**
3. **Reading quizzes as needed** – To ensure that all members of the class are keeping up with the reading assignments.

Course and Instructor Policies

Contacting the Instructor

Before you contact me, I suggest checking the syllabus, course website, and all handouts to see if the answer to your question is there. For more complex questions, you should see me in office hours or make an appointment. You can send me an email, but this is not a good way to get in touch with me about either trivial matters (which are almost certainly on the syllabus or best discussed in class) or difficult issues (which should be discussed in person). I will not accept work or provide feedback via email. Email has generated many unreasonable expectations in our lives that we should all think more critically about, and I encourage you to do so. Of course, you should feel free to email me to remind me about something, or if you need to contact me urgently (if, for instance, you will miss an assignment due to a dire medical issue). If I do not reply to your email within 48 hours, please send me a reminder.

Late Work, Make-Up, and Completion

No late work or make-up exams will be allowed without consent of the professor *prior to* the due/exam date, except in situations where University policy requires it, or in case of truly dire circumstances. *All non-optional assignments must be completed in satisfactory manner in order to receive a passing grade in the course.*

Class Attendance

While reading and writing are crucial parts of the course, a central part of intellectual activity is in-person discussion. (Hence the continuing importance of talks and conferences in every academic field.) While class will occasionally involve bits of lecture, this is merely an instrument to a more well-informed discussion and other structured activities. **Attendance is thus considered mandatory.** Missed classes will count heavily against your participation grade, and egregious absenteeism will be grounds for an **F** in the course at the professor's discretion. In-class assignments and activities likewise cannot be made up unless the professor agrees to it before the class is missed. Disruptive or extremely late arrivals or early departures will be considered absences.

Laptops and Other Devices

You should not use a laptop or tablet computer in this course during lecture or discussion, including for note-taking or reading purposes, unless you can demonstrate a compelling need for it. Likewise, you may not use a music player or headphones, unless they are attached to a hearing-assistive device approved by the instructor or the Office of Student AccessAbility. If you are given such an exception, it will be immediately and permanently revoked if you abuse the technology for off-topic purposes.

The use of such devices can be a distraction to your classmates and instructor and a detriment to your own learning. Readings should be brought to class in the print version or printed out. Notes should be taken on paper and scanned or transcribed after class (transcribing handwritten notes is a fairly effective study method). Given the nature of the course, you should not have to take such copious notes as to require any extra speed afforded by typing them. This strict and paternalistic policy is a result of both personal experience and a close look at the psychological and pedagogical research on the pros and cons of laptop usage in class. Across every measure, the evidence speaks against indiscriminate use of laptops in class.

For certain activities in-class, the instructor may request you to bring a laptop or to take it out and use it for that specific purpose. These will be specified by the instructor.

Classroom expectations

You are expected to have **read the assignments *before* class**, and it would be to your benefit to also read them again after class. You are expected to **bring a copy of assigned readings** for each day's class, and have them available to refer to. You are expected to **listen respectfully** to the professor and your fellow students, and **participate** in class discussions and activities.

Clear failure to abide by these expectations will result in you being asked to leave the classroom and being counted absent for the day.

Tips on Forms of Address

It is appropriate and courteous to refer to your professors by the title of "Professor" or "Doctor" as in "Professor Brown" or "Dr. Brown," though in some circles the latter connotes someone with an MD rather than a PhD. Unless you write for the New York Times, it is generally inappropriate to refer to your professor as "Mr." or "Ms./Mrs./Miss." (And unless they have specifically stated a preference for it, it is never appropriate to call an adult woman "Miss or Mrs.") Having been educated in part in the informal academic climate of California, it would also be fine if you call me "Matt." (Please don't call me "Matthew," only my mother does that.) Having also been educated in the South, I am fine being referred to in a formal fashion as well (and would be happy to refer to you formally if you prefer).

Other Stuff

<http://go.utdallas.edu/syllabus-policies>

A syllabus is not a suicide pact. This descriptions, timelines, and policies contained in this syllabus are subject to change in the interest of improving the quality of the course, at the discretion of the professor. Adequate notice will be provided for any changes.

Cognitive Ethnography

Class Project Description

EMAC 6375 & ACN 6V81

The purpose of this project is to develop the observational and analytical methods of **cognitive ethnography**. The project is broken up into multiple components, most of which build on each other in some important way, and all of which emphasize important skills and techniques for the cognitive ethnographer. For each major stage, we will practice peer review of the written products.

The key components of this project are:

1. Cognitive Diary
2. Deconstruction of a Cognitive Ethnography
3. Selection of a Field Site
4. Human Subjects Ethics Training
5. Introduction to the Field Site
6. Observation and Field Notes
7. Photo Documentation
8. Social Responsibility Framework
9. Interview and Transcription
10. Cultural Models Analysis
11. Video Documentation and Enhanced Transcription
12. Multi-modal Cognitive-Ethnographic Analysis

1 Cognitive Diary

Goals

In this assignment, you will learn to think about the nature of cognitive tasks in everyday life and how they can be analyzed by observing your own daily cognitive activities. This assignment will also introduce you to the writing and peer-review process that we will use in this course.

Directions

1. Keep a “cognitive diary” for an entire day. Whenever you engage in some kind of cognitive task – i.e., something that requires you to think, plan, remember, or problem-solve – try to notice it and make a record of it (jot it down, dictate to tape recorder, etc.). You are not required to turn in the diary itself, but you are required to do one.
2. Choose an everyday *cognitive* activity from your diary to describe in detail. Choose carefully. Keep it small and simple. It may be part of your job, or part of a recreational activity, or part of your everyday routine. It should be something that you would have done even if you were not taking this class. *Do not attempt to describe a personal relationship, or a private activity, or your reasoning about it.* Do not attempt to design an “experiment.” Don’t worry about how representative the activity is.
3. Describe the cognitive activity as carefully as you can. Begin by describing only those things that can be seen “from the outside,” i.e., could be captured on video or described by an observer. Make sure you answer the question: **What is “cognitive” about the activity?** Some of the questions you might be able to answer include the following: What function does the cognitive activity perform? What concepts or information does the activity make use of? How does the activity take advantage of or interact with structure in the

environment? Is the activity a common routine, and if so, in what ways? Look for cognitive shortcuts – ways of making a complicated computation into a simple one.

4. You're analyzing the activity, but only by analyzing your description of observable phenomena. Minimize or avoid first-personal descriptions of "what is going through my mind" or "what was going on in my head." Such things are not available to cognitive researchers, and you may know much less about them than you think!
5. Use the readings for inspiration! Also, feel free to make citations to the readings when you feel that they support your analysis.

Write Up

Your write-up should be between **500-800 Words**, formatted as you think appropriate. **DO** include a title for your write-up. **DO NOT** include any identifying information in the essay itself (i.e., no name, UTD-ID, etc.), in order to prepare your paper for anonymous peer review. Proofread carefully and ensure your draft is substantially free of grammatical and spelling errors.

Draft due: 8/29 at 11:59pm (via Turnitin)

Peer Review Instructions

The peer review period will be from 8/30-9/2. You will read and review the write-ups of two of your classmates. You should feel free to mark grammatical issues etc., but you should focus on the intellectual content of your peer's write-up, and provide feedback that will help them improve it. Make sure they followed directions and that their write-up includes all the required components.

Pay special attention to the following questions:

1. Did the author choose an appropriate activity? Is it genuinely *cognitive*? I.e., does it involve problem-solving, inquiry, information-processing, or something similar?
2. If the task is cognitive, does it have a cognitive *goal*, or is the cognitive component merely a sub-task, i.e., a part of the overall activity?
3. Does the text focus on a single event of a small enough scale to engage the details? Is their description detailed enough? In what ways could it be more detailed?
4. Does the text violate the terms of the assignment by describing a personal relationship or a private or illegal activity?
5. Does the text make a clear distinction between description and analysis? Or do they sneak in their interpretations of the cognitive activity into the basic description? How could they avoid this?
6. Does the description stick to observable phenomena? Or do they describe things about the activity that could not be observed by an external party, such as complex mental / brain processes? How could they avoid this?
7. Are the claims in the analysis supported by observations that appear in the description?
8. Does the text mention concepts from the readings or lectures? Does it use them well? Could other concepts help their analysis? Which ones?
9. Overall, how would you rate this text?
10. What other improvements can you suggest?

Final Due Date: 9/5 at 11:59pm

2 Deconstruction of a Cognitive Ethnography

Goals

The goal of this assignment is to prepare you to conduct your own cognitive ethnography by deconstructing someone else's. This will help you think about the different elements of a cognitive ethnography and how they fit together.

Directions

Begin by reading “Constructing Meaning from Space, Gesture, and Speech” by Hutchins and Palen (1993). Then, write an analysis of that essay in which you do the following:

1. Describe the research question addressed by this cognitive ethnography, and the methods used by the authors to answer this question.
2. What is the activity that the authors analyze? How is it a *cognitive* activity?
3. Discuss how the sorts of documentation used by the authors in their ethnographic analysis, and what the benefit of that kind of documentation is.
4. Summarize the author’s main argument in the paper, and explain how they arrived at this argument via their analysis.
5. List what important questions you feel the authors leave unanswered.

Write Up

Your write-up should be between **700-1000 Words**, formatted as you think appropriate. **DO** include a title for your write-up. **DO NOT** include any identifying information in the essay itself (i.e., no name, UTD-ID, etc.) Proofread carefully and ensure your draft is substantially free of grammatical and spelling errors.

Draft due: 9/5

Peer Review Instructions

The peer review period will be from 9/9-9/11. You will read and review the write-ups of two of your classmates. You should feel free to mark grammatical issues etc., but you should focus on the intellectual content of your peer’s write-up, and provide feedback that will help them improve it. Make sure they followed directions and that their write-up includes all the required components.

Pay special attention to the following questions:

1. Does the author accurately describe what is cognitive about the activity described by Hutchins and Palen?
2. Does the author properly distinguish between Hutchins’ and Palen’s documentation / description and their analysis / argument?
3. What elements do you feel the author has left out of their deconstruction?

Just because you disagree with their analysis does not make it a bad one. Help them develop their own ideas rather than pushing your own on them. At the same time, don’t be bashful about identifying flaws or weaknesses in their arguments.

Peer review is not an excuse for plagiarism. Do not steal ideas from your peer review partner.

Final Due Date: 9/12 11:59pm.

3 Selection of a Field Site

Goals

The goal of this assignment is to select a suitable field site to conduct your cognitive ethnography research. This is an extremely important prerequisite to the rest of your work for the term. You will spend at least a few hours at for field site each week during the term.

Directions

A good field site must meet several requirements:

1. It must be persistent, such that you can continue to observe it throughout the semester, and it must have a persistent group of participants who will consent to participate in the ethnography project.

2. It must have a *cognitive* task or involve a lot of *cognitively intensive* sub-tasks.
3. It must involve a group working together, in a setting, with particular equipment or tools.

The field site should involve activities that would occur even if you were not taking this class. Do not attempt an “experiment” and don’t worry about how “representative” the activity is.

For instance, you might choose:

- **An engineering lab on campus (*see notes below*)**
- A small workplace (or working group in a larger workplace)
- A classroom that involves frequent group activities
- A group playing a difficult game

I have entered into a prior agreement with several engineering research labs around campus to have you come in and do your ethnography there. This will be an easy option, for those of you whose schedules permit it. (These labs are part of an ongoing study on Engineering Ethics, so you will have to agree to participate in that research in order to use these field sites.)

One possibility that may interest some students would be to treat some online community, or group of users of some digital media technology, as a field site. This sort of field site presents a set of particular difficulties, however. Students should read New Media and Participant Observation to get a sense of some of the issues, then consult with the professor.

Informed Consent

You will not need to get informed consent at this stage, but you should talk to the participants to make sure they will be willing to participate in the rest of the project.

Write Up

List 3-4 field sites, and explain briefly how they fit the three conditions above.

Draft due: 9/13

If you want to use an engineering lab as your field site, this assignment is optional, and you can simply turn in a note to that effect.

Peer Review Instructions

Peer review will be conducted in class. Some of you will need to consult with me out of class about your field site.

You should settle on a top choice and an alternate for the final due date.

Final Due Date: 9/16

4 Human Subjects Ethics Training

Goals

The goal of this assignment is to learn how to conduct ethically responsible research involving human subjects.

Directions

1. Complete the online Human Subjects Training.
2. Print the *completion certificate* and bring it to class, or save it as a PDF and upload it to Turnitin.

You must complete this assignment and TURN IT IN before you can conduct ANY research at your field site. You are welcome to turn it in early.

Final Due Date: 9/21 at 7:00pm

5 Introduction to the Field Site

Goals

The goal of this assignment is to familiarize yourself with your field site, develop rapport with the participants, and to get their informed consent to participate in the project.

Directions

1. Set up a regular weekly time with your informants to visit the field site and conduct your observations. You should pick a time when many of the participants will be actively engaged.
2. Meet the participants, and review the informed consent forms with them. Answer any questions they raise about the study.
3. Get to know the field site and the participants. You need not take any formal field notes, but feel free to take notes as needed.
4. If appropriate, volunteer to participate in non-technical but helpful elements of the group activity.

Informed Consent

It is essential that you obtain informed consent from all of the participants at the field site before continuing the study there. If the members of this field site do not consent to the research, you will have to pick an alternative site.

Write Up

Your write-up should be between **300-600 Words**. You should write up your general impressions and reflections on your field site, the participants, and their cognitive activities. Do not include any identifying information about the participants. (This assignment is not peer reviewed.)

Turn in your signed informed consent forms in class on 10/5.

Final Due Date: 10/3

6 Observation, Field Notes, and Analysis

Goals

The goals of this assignment are to learn to observe cognition in the wild, describe your observations, and analyze your description. This is a chance for you to learn about how people use their minds in everyday activities and to analyze the cognitive details of those activities.

Directions

1. **Observe:** Visit your field site and carefully watch every action your participants do, taking appropriate fieldnotes as you watch. If taking notes would be awkward or inappropriate during the activity, wait until the end of your observation session, and then immediately write down what you observed. It is worthwhile to take your jot notes immediately after your observation session and type them up into formal fieldnotes. (There are many guides to and templates for writing fieldnotes that you can find online. Pick a form that works for you.) Your observations don't have to be continuous but can be broken into multiple observation sessions.
2. **Describe:** Choose a single cognitive activity from your field notes to describe in more detail. The more numerous and more diverse the events you captured in your notes, the easier it will be to choose one that you can use to demonstrate your mastery of description and cognitive analysis.

Describe the cognitive activity as carefully as you can. Go slowly; be patient and methodical. Describe what actually happened in this particular instance rather than generalizing about multiple events. Describe only observable phenomena. These include relevant objects in the

environment (cognitive artifacts), specific bodily actions and positions with respect to these objects, and specific speech uttered. Do not describe any internal, unobservable phenomena such as “remembering,” “wanting,” etc.

For example, rather than writing “She chopped the tomatoes,” you should write: “She held the tomato with her left hand, three fingers wrapped around the far side with her pinky on the cutting board. She held the knife in her right hand with her elbow away from her body and her head down, and sliced the tomato into 1/4 inch slices. She exhaled each time she brought the knife down.” This is the right level of detail.

3. **Analyze:** In the analysis you will address the question: “What is ‘cognitive’ about this activity?” That is, how does the activity accomplish a cognitive function such as planning, problem solving, decision making, understanding, control of action, and so on. Some of the questions you might be able to answer include the following: How does the activity take advantage of or interact with structure in the environment? If the activity is engaged in frequently (you will have to rely on general ethnography to establish this), is there evidence that it has become ‘routine’ in the sense described by Lave et al. 1984? Look for cognitive shortcuts, that is, ways of making a complicated computation into a simple one, or ways of leaving out parts of an activity that previously seemed necessary.

Resist the temptation to describe what your participant was “thinking.” Some of the processes that you might have assumed were internal will turn out on closer inspection to exist in the interaction of bodies with the world. Be sure not to miss these by prematurely looking for explanations in the head. Try to give cognitive *interpretations* of the activities you see, rather than positing cognitive *causes* of those activities.

Notice that what you analyze is your description of the chosen event, not the event itself. Your analysis cannot refer to aspects of the event that do not appear in the description. So, write the description first. Then, as you develop the analysis you may discover or remember aspects of the event that you observed, but neglected to describe. You should continue to refine the description as you develop and refine the analysis. The description and analysis should fit each other.

Informed Consent

If any new participants of the field site are present in your subsequent observations, you need to obtain their informed consent as well. You should bring spare informed consent form to your field site *each* week. If you recruit new participants, turn those forms in to the Professor by the following class. Participants who do not give their consent can not be included in your observation or analysis.

Write Up

Your write-up should be **700-1000 words**, prepared for peer review. Your write-up should include both your description and analysis, clearly distinguished.

Draft due: 10/3

Peer Review Instructions

The peer review period will be from 10/4-10/7. You will read and review the write-ups of three of your classmates. You should feel free to mark grammatical issues etc., but you should focus on the intellectual content of your peer’s write-up, and provide feedback that will help them improve it. Make sure they followed directions and that their write-up includes all the required components.

Pay special attention to the following questions:

1. Did the author choose an appropriate activity? Is it genuinely *cognitive*?
2. Does the text focus on a single event of a small enough scale to engage the details? Is their description detailed enough? In what ways could it be more detailed?
3. Does the text violate the terms of the IRB protocol by describing a personal relationship or a private or illegal activity?

4. Does the text make a clear distinction between description and analysis? Or do they sneak in their interpretations of the cognitive activity into the basic description? How could they avoid this?
5. Does the description stick to observable phenomena? Or do they describe things about the activity that could not be observed by an external party, such as complex mental / brain processes? How could they avoid this?
6. Does their analysis adequately explain what is cognitive about the activity?
7. Are the claims in the analysis supported by observations that appear in the description?
8. Does the text mention concepts from the readings or lectures? Does it use them well? Could other concepts help their analysis? Which ones?
9. Overall, how would you rate this text?
10. What other improvements can you suggest?

Final Due Date: 10/10

7 Photo Documentation and Analysis

Goals

The goal of this assignment is to learn how to attend to the cognitive details of the everyday world, and to document the visible aspects of cognition in the wild using **photography**, as well as learning how to analyze photographic evidence to interpret the cognitive elements of environments and activities.

Directions

1. Take pictures of the activity. Try to capture interesting aspects of the activity and the social and material environment in which it takes place. Take a good number of shots so you will have plenty to choose from later.
2. Carefully look at your pictures and choose **two** of them that you find most interesting.
3. Carefully describe what you see in the two photos. Stick close to the data and pay attention. Look for evidence of cognitive activity. Hopefully, you will see things in the study of your photos that you did not see while observing the event live.
4. Analyze the photographs in order to answer the question, “What is ‘cognitive’ here?” The analysis should explain how the visible features of the images you described are related to cognitive processes or accomplishments such as planning, problem solving, decision making, understanding, control of action, and so on. While you should include the images in the document you turn in, you should also make sure that the elements that you base your **analysis** on are present in your **description**.

I assume you will use a digital camera for this assignment. The camera in your phone will even be fine, if it is of sufficient quality.

Informed Consent

If any new participants of the field site are present in your subsequent observations, you need to obtain their informed consent as well, and turn those forms in to the Professor. Participants who do not give their consent can not be included in your observation or analysis.

Write Up

700-1000 words of text, plus the two photos, which should include your description and your analysis. Prepare your write-up for anonymous peer review.

Draft due: 10/10

Peer Review Instructions

Pay special attention to the following questions:

1. Did the author choose an appropriate activity? Is it genuinely *cognitive*?
2. Do the images, as described and analyzed, represent two complementary aspects of the *same* cognitive activity?
3. Is their description detailed enough? Does it leave out elements of the photographs that seem relevant to you? Which elements?
4. Does the text violate the terms of the IRB protocol by describing a personal relationship or a private or illegal activity?
5. Does the text make a clear distinction between description and analysis? Or do they sneak in their interpretations of the cognitive activity into the basic description? How could they avoid this?
6. Does the description stick to observable phenomena? Or do they describe things about the activity that could not be observed by an external party, such as complex mental / brain processes? How could they avoid this?
7. Does their analysis adequately explain what is cognitive about the activity?
8. Are the claims in the analysis supported by observations that appear in the description?
9. Does the text mention concepts from the readings or lectures? Does it use them well? Could other concepts help their analysis? Which ones?
10. Overall, how would you rate this text?
11. What other improvements can you suggest?

Final Due Date: 10/17

8 Social Responsibility Framework

Goals

In this assignment, you will learn about the role of social factors and outcomes in decision-making, as well as the possible role of humanists and social scientists in improving social responsibility of various activities through midstream modulation. You will also help the participants in your field site expand their awareness of themselves as decision-makers. You will reflect on the larger social relationships and responsibilities that researchers have with and two their field sites and participants.

Directions

In this assignment, you will apply the Socio-Technical Integration Research (STIR) Decision Model to interactions at your field site. The goal is to explore (and perhaps improve) the societal aspects of the cognitive work of the field site. The STIR framework is based on the idea that cognitive activities are decision-making processes, and those decisions have different values considerations and social effects that should be considered, though the participants may not often recognize that they actually make decisions in the course of their activity.

1. Bring several copies of the STIR Decision Model Worksheet.
2. Choose a participant, and ask the following questions, using the worksheet as a guide as well as a note-taking tool. (Repeat this step for several participants engaged in different activities.) A. **Opportunity:** What are you working on? *Ask followup questions to help them articulate the problem and its framing.* B. **Considerations:** Why are you working on it? *Ask followup questions that get them to identify criteria and values behind their activity and expand their perception of relevant values and concerns.* C. **Alternatives:** How could you do it differently? *Ask followup questions to help them identify their options for responding and expanding their perception of available choices.* D. **Outcomes:** Who might care what you do and why you do it? *Ask followup questions to help them anticipate the effects over time of their decision and the social meanings of those decisions.*

3. The STIR Worksheet is just a heuristic tool. In practice, your discussion may proceed in a different order. Follow it as organically as possible.
4. It is not your place to tell the participants in your field site what to do or how to do it. Your role is to ask questions that help them think through their decision process. You should adopt a “Socratic” mode of interaction where you are focused on asking questions.

Informed Consent

You need to be absolutely sure that the participants you are engaging in this activity have signed an informed consent form. If there are new participants involved, you must first receive their consent.

Write Up

In 300-600 words, write up a description of one of the interactions you had around the STIR Framework, and reflect on the discussion you had with the participant(s) and how affective it might have been in modulating their activity in terms of socially responsible conduct. Also write about how this exercise made you feel about your role in your field site. *We will not do peer review for this assignment.*

Final Due Date: 10/24

9 Cognitive-Ethnographic Interview and Transcription

Goals

To learn how to conduct an interview, and transcribe an audio recording.

Directions

1. For this project you will need some sort of **audio** recorder (video is okay as well, but you’ll only be using it for its ability to collect audio). This might be a tape recorder or an app for your phone. Make sure you know how it works before your interview, and that it will record for at least 60 minutes.
2. Before interviewing, read Ed Hutchins’ interviewing tips and potential interview questions and read Lindlof & Taylor’s discussion of Qualitative Interviews.
3. Identify a participant in the activity from your field site who is willing to talk to you about the activity.
4. Set up a time and a quiet place to talk to your informant.
5. Turn on the recorder and interview your informant about the activity you took field notes and photos of. You should start with the photos you used in the previous part, but feel free to use other photos as prompts in the interview. Ask your informant to explain what is going on in the activity.
6. Record at least 30 minutes, but no more than one hour of interview.
7. Listen through your interview and make an index of what it contains. This should be a list of topics discussed or events in the conversation with some indication of where they appear on the recording. Your index should be split up according to the content of the interview, but it should not be less than one entry per five minutes. Choose one or two passages to transcribe based on your indexing.
8. Transcribe about 1000 words using relaxed transcription techniques. For this, you should just try to get all of the words that are said, including false starts and other disfluencies.
9. Consider using Express Scribe, a handy transcription tool, that can be downloaded for free. Before trying it out, you should read the tutorial.

Informed Consent

Double-check that you have received informed consent for interview recording from your informant using the interview consent form.

Write Up

Write up the index for your interview. Be sure to indicate on the index which sections of the interview were transcribed. Type up the 1000-word transcription in clean form. Hutchins has a useful example of an index and transcription.

Final Due Date: 10/31

10 Describe and Analyze Cultural Models

Goal

To find and document cultural models used in the construction of meaningful passages in your interview.

Directions

1. Search:

- A. Look through your interview transcript for evidence of cultural models. It may be necessary to go back and listen to your whole interview again to find passages that contain clear cultural models. Choose a passage that makes it easy for you to find and document the cultural models involved.
- B. Consider each word in the transcript. Pay attention to detail. As you go along, make sketches, notes, rough drafts, of models. Try highlighting in different colors to represent emerging categories of events in the material.

2. Analysis:

Describe the cultural models that are required to make sense of, or establish the meaning of, the passage. Make sure that your description is accurate and clear. You might consider expressing it in a diagram or some other notation. Show how these models are used in the passage and how the passage relies on the listener having access to these models. Describe any inferences that the passage suggests. How is the listener expected to go beyond what is literally present in the passage? A. Choose to develop models that are well supported by the data. You will need to choose, and in order to choose intelligently you will have to do at least a partial analysis. This means that you will probably discard some part of the analysis you do. This is normal. It is the right thing to do.

- C. Describe the model. Use text for the full description. Be sure to include the parts of the model that are necessary to understand the material. As you develop the description of the model continually test it against the data. You may include other parts of the model too. If you do, try to indicate which parts of the model are essential to understand the data, and which are not.
- D. Represent the models as diagrams or in propositional form. This process will help you get the details of the models right, will help you see and understand the relations among models (hierarchical, sequential, competing, etc.), and will allow you to write the main description and analysis sections more concisely.
- E. Examine the role of the models in the organization of the material. This is the big question. Cultural Models organize meaningful discourse. Your job is to show which models organize the discourse you examined and show how those models were used by your informant (or author of other media) to construct the inscription you examined.
- F. Once you have identified some models, you can ask (and answer) these questions. Where does the model appear to be at work? What is it doing? How is it instantiated? (for example, informants often give a specific instantiation before a more general statement of the structure of the model). How is it related to other models? Here is where taking your time and attending to details pays off. Insight will be rewarded. You can discover something new while doing this. Even if it is only new to you, it's important, and genuine discovery is a great feeling.
- G. Include the data! Attach segments of transcript or photocopy of other media. Be sure to make it easy for a reader to find the elements of the data to which you refer in the description and analysis.

Informed Consent

You should have received informed consent prior to conducting the interview that you will analyze.

Write Up

700-1000 words of text, prepared for peer review. You can include additional figures and tables, as well as segments of the transcription that you relied on, and they will not count against your word count.

Draft due: 11/7

Peer Review Instructions

Final Due Date: 11/14

11 Video Documentation and Enhanced Transcription

Goal

The goal of this assignment is to learn how to attend to the cognitive details of the everyday world, and to document the visible aspects of cognition in the wild using **video**, as well as learning how to analyze video evidence to interpret the cognitive elements of environments and activities.

Directions

1. Make observations: You may already have observed, photographed, and interviewed some participants at the field site. In this project you should conduct a more systematic study of the ways that people make meaning in everyday activity. Talk to the people and observe them in the activity. Take notes on their activities, describe their tasks, and videotape a person or, preferably, persons interacting with their environment or with one another. Collect at least 15 minutes of video, but not more than an hour total.
2. Create an index and select clips for analysis: Using the method introduced in the interview project, create an index for your video. Select clips totaling at least 60 seconds duration for analysis.
3. Transcribe clips: Make a detailed transcription of the activity in your selected clips. You should create an *enhanced* transcript that makes use of the *visual* elements of your video documentation. Refer to the examples borrowed from Edwin Hutchins' course website: Example 1, Example 2.

Informed Consent

Double-check that you have received informed consent for interview recording from your informant using the consent form.

Write Up

Turn in your enhanced transcript.

Draft due: 11/14

Peer Review Instructions

Remember that transcriptions are meant to be literal portrayals of what is in the data, and that actual speech is full of disfluencies, ungrammatical utterances, and so on. Focus your feedback on what elements of the formatting or use of visual images you find confusing and hard to follow.

Final Due Date: 11/21

12 Multi-modal Cognitive-Ethnographic Analysis

Goals

The goal of this activity is to use all of the data you have collected so far, in terms of observations, field notes, photo documentation, interviews, and especially video recordings, to produce a cognitive ethnographic analysis of (one of) the main activity (or activities) at your field site.

Directions

1. Analysis: Analyze your corpus of data using the concepts presented in the lectures and readings, focused on answering the questions, (1) “What is ‘cognitive’ about this activity?” and (2) “How does the cognitive process work?”
2. Write up the analysis. Be sure your analysis makes use of the concepts in the readings, as well as the guidance presented in the previous assignments on how to analyze data.
3. Include representations of your data, descriptions of the data, and figures, diagrams, or tables that help with your analysis.

Informed Consent

Double-check that you have received informed consent for video taping the participants.

Write Up

1500-2000 words of text, prepared for peer review. As with previous assignments, your write-up should clearly distinguish between description and analysis, and your analysis should be focused on providing a cognitive interpretation of the data described in your description section. Data, figures, references, etc. will not count against your word count.

Draft due: 12/2

Peer Review Instructions

TBD

Final Due Date: 12/12

13 Acknowledgements

Credit to Edwin Hutchins, Melanie McComsey, and Erik Fisher from whom I’ve adapted these project ideas and taken some of the text for the directions.

August

2015

July						
S	M	T	W	T	F	S
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	

September						
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13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30			

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
26	27	28	29	30	31	1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
Classes Start						P1 Draft Due
30	31	1	2	3	4	5
			P1 Peer Review Due			P1 Final Due P2 Draft Due

September

2015

August						
S	M	T	W	T	F	S
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30	31					

October						
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18	19	20	21	22	23	24
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SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
30	31	1	2	3	4	5
			P1 Peer Review Due			P1 Final Due P2 Draft Due
6	7	8	9	10	11	12
			P2 Peer Review Due			P2 Final Due
13	14	15	16	17	18	19
P3 Draft Due	P3 Peer Review In-Class		P3 Final Due			
20	21	22	23	24	25	26
	P4 Due					P5 Due
27	28	29	30	1	2	3
						P6 Draft Due
4	5	6	7	8	9	10
			P6 Peer Review Due			P6 Final Due P7 Draft Due

October

2015

September							November						
S	M	T	W	T	F	S	S	M	T	W	T	F	S
		1	2	3	4	5	1	2	3	4	5	6	7
6	7	8	9	10	11	12	8	9	10	11	12	13	14
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27	28	29	30				29	30					

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
27	28	29	30	1	2	3
						P6 Draft Due
4	5	6	7	8	9	10
			P6 Peer Review Due			P6 Final Due P7 Draft Due
11	12	13	14	15	16	17
			P7 Peer Review Due			P7 Final Due
18	19	20	21	22	23	24
						P8 Due
25	26	27	28	29	30	31
						P9 Due
1	2	3	4	5	6	7
						P10 Draft Due

3

November

2015

October							December						
S	M	T	W	T	F	S	S	M	T	W	T	F	S
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4	5	6	7	8	9	10	6	7	8	9	10	11	12
11	12	13	14	15	16	17	13	14	15	16	17	18	19
18	19	20	21	22	23	24	20	21	22	23	24	25	26
25	26	27	28	29	30	31	27	28	29	30	31		

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
1	2	3	4	5	6	7
						P10 Draft Due
8	9	10	11	12	13	14
			P10 Peer Review Due			P10 Final Due P11 Draft Due
15	16	17	18	19	20	21
			P11 Peer Review Due			P11 Final Due
22	23	24	25	26	27	28
	Fall Break					
29	30	December 1	2	3	4	5
			P12 Draft Due			
6	7	8	9	10	11	12
		P12 Peer Review Due				P12 Final Due

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