

Contextual Research Method (Construction Safety)

Construction Safety Ethnography

Focus Statement

The safety hazards surrounding construction workers at large scale commercial construction sites. And to find ways to improve working conditions to better the safety and comfort for the workers.

The End Users

Scott - 30 years old, Head Framer
Ken Garrett - Charge of the renovation
Donald Byrd - OSHA director of seventy three counties in Georgia (Occupational Safety and Health Administration)
Margaret Ganse - 40 years old, working on the tunnel site

Four Principles Applied

Context (The environment in which observed work is performed)

We visited various construction sites and asked questions to those who we came in contact with. Our interviews ranged from back alley work site on Bay St, Tunnel site at Turner House, and work site behind Gulfstream Center.

Partnership (The relationship between the researcher and the Participants)

Most of the people we talked to were kind enough to talk to us during their workday. It also helped setting up the appointments ahead of time conduct interviews.

Interpretation

(To observations and the verification of perceived meaning with the participant)

Through the observation, the workers showed that safety guidelines are ignored mainly because it interferes with their work, and that hard hats and boots can be uncomfortable.

Focus (The perspective observed by the researcher during an inquiry)

We observed many workers without the necessary safety requirements that they were trained to use. Also firm talking with the workers they would tell us stories such as serious injuries that occurred, due to people either not paying attention or being oblivious to other workers locations.

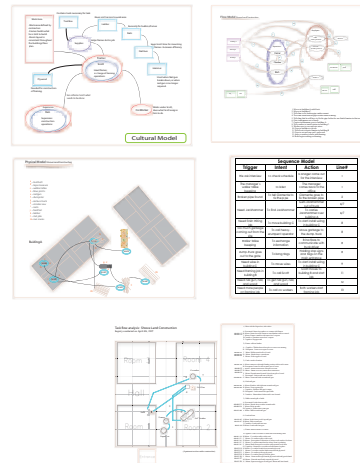
Major Findings

Major Findings as a group consisted of the information gathered from each of our participants. Clement pushed the fact that construction to those working around them. Workers mentioned that heavy machinery emits a lot of noise, and workers often have to shout to hear each other which causes problems. Lack of communication is a pertinent issue. Also boots and hats are not comfortable. While most problems on the job site are a result of the worker, new hard hats, boots and bluetooth devices for improving communication, seem to be the only area we can improve.

Ethnography of Construction Safety Work Modeling and Task Analysis

Focus Statement

To configure all the data we had analyzed from the contextual interviews and inquiries. Our goal is to improve safety conditions to reduce down time due to injury and make the workers themselves, more comfortable with themselves, working together, and their environment.



Major Findings

Our models provide an easy way to communicate outside our design team. Flow model shows that communication is vital and is a necessary task itself on the construction site. Task Flow Analysis we have found that the workers perceptual is dominated by motor function. Sequence model shows that the work task that unfolded over time where all deliberate. The consistency of triggers, intent and actions give us a clear understanding that communication played between the construction workers, were all tedious tasks. Artifact is labeled on our model and is vital to completing these small tasks by the user. In conclusion, through our observations, notes, and visual diagrams we established that communication and awareness of co-workers is vital to a safer working environment.

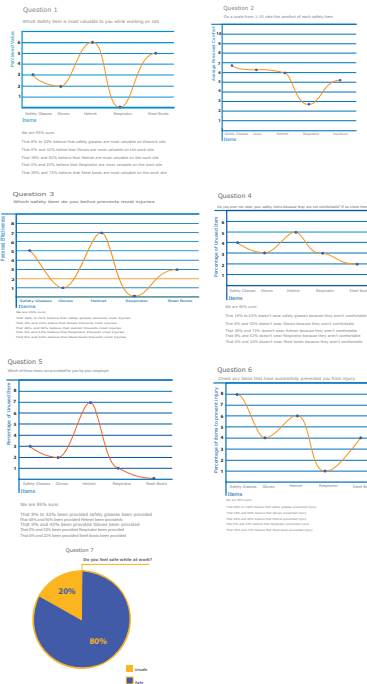
Questionnaires and Data

Focus Statement

What? To conduct a survey from a randomly selected group of a specific population.

Why? Our survey serves to plot the opinions of construction workers in order to visualize the relationship between themselves and the protective equipment used on site.

Where? Local construction site both corporate and private.



Cultural Probes in Construction

The Method

Introduction

A cultural probe is a tool used to gain insight into the way of life of a selected group of users. The results of the information gathered analyzed in order to obtain a more accurate knowledge of the particular group.

Goals

To find unique and highly subjective information from our probes.

Probe Findings

Analysis

After collecting our probes we saw a clear diversity in the recipients' responses. We then laid them out and applied them in the context of our research goals. We then diagramed each helmet probe, numbering them 1-11, each number representing a particular response. For instance, we discovered one worker's beer brand preference for Red Dog. Based on the responses we were able to divided the probe findings into two distinct categories, groups A and B, one being sincere and the other indifferent. Even though there are two distinct categories, each holds valuable information and perspective on the construction culture. We realized that the indifferent group B only consisted of names, slangs, and derogatory remarks. Group A's responses were interpreted as actual opinions and feelings that related to their work environment.

Conclusion

Spanning from the upper management levels to the lower end laborer, we concluded that the two groups illustrate two dominant worker perceptions of the construction industry. The first group, A represents a more professional and aware individual who perceives his job as his career and therefore has a high regard for his profession and is readily compliant with safety improvements. Group B showed by their complacency and manner of tagging that they cared little of the industry or safety, and we interpreted many of their responses as pure disdain for their job.

