



Research Findings

DESN 24427 Design Strategy & Computation

**What do you remember about triangulation
from last week?**

Research triangulation

Confirm research findings by combining research methods

- Triangulation is the **process** of combining different research methods to gain a greater understanding of a problem space
- It adds **credibility** to qualitative design research (overcomes issues of validity in singular qualitative approaches)
- The **goal** of triangulation is to confirm the findings of each individual design/research method by focusing on where the collected information overlaps

Example of triangulation in action

HMW improve communication between South Asian teenagers and their immigrant parents?

Research Question	Method: POEMS Observation	Method: Semi-Structured Interview	Method: Literature Review	Convergence
Why is communication between South Asian teens and their immigrant parents so difficult ?	When the child (people) approached their parent (people) they had difficulty communicating why their issue is important and valid (messages).	“My mom’s like ‘why are you crying? This isn’t even a matter to cry about!’ ” - Quote from participant	The acculturation gap [the changing set of values and culture between a child and parent/guardian] between immigrant parents and children can create problematic distancing that leads to a breakdown in or loss of communication between both parties (Hwang, 2006).	A difference in values (beliefs about what is important, just, etc.) and culture (communication style) is to blame for communication difficulties between South Asian teens and their immigrant parents.

**How do we sort through our
findings in an efficient manner?**

Analysis frameworks

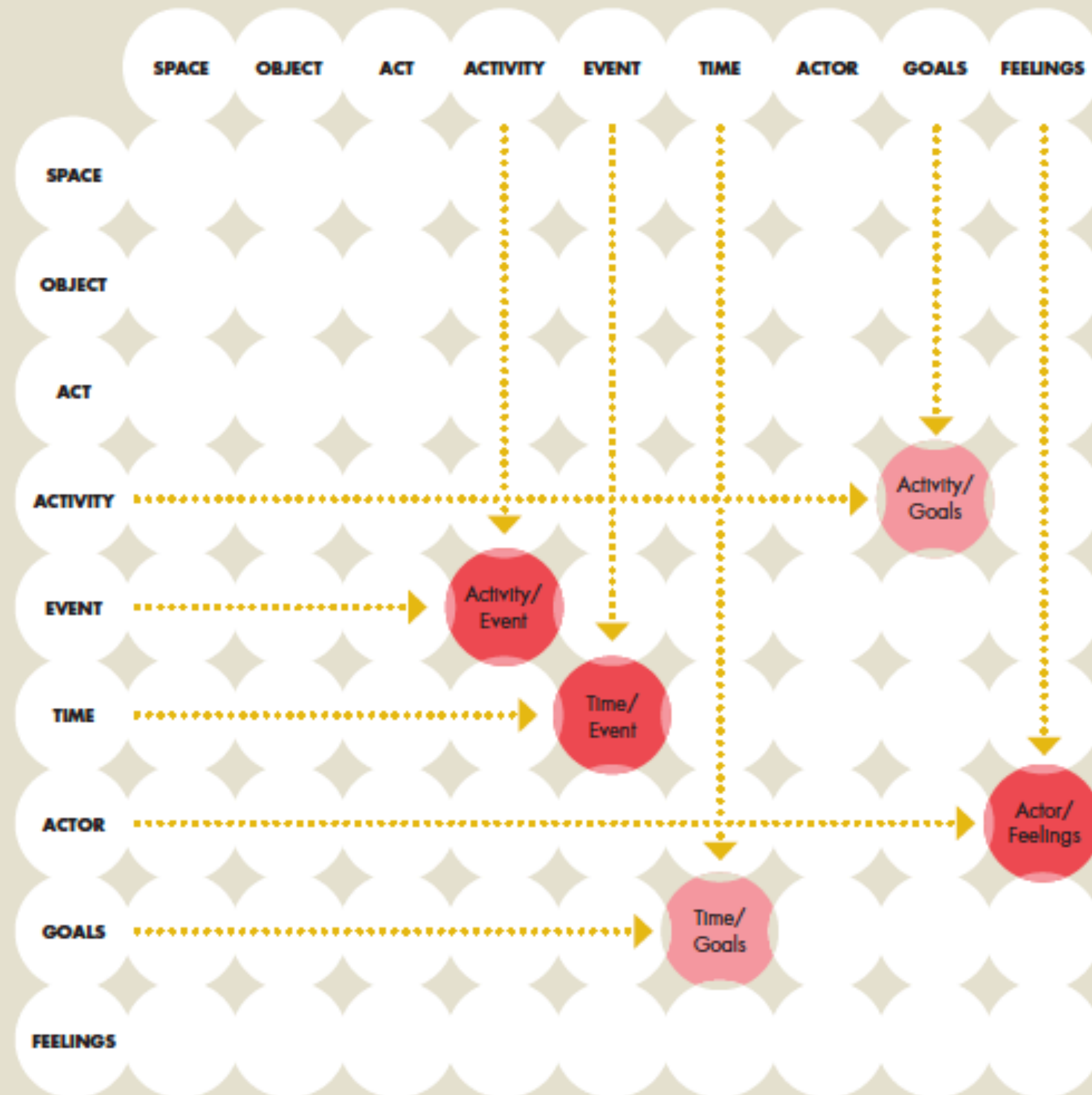
Structure for research findings

- Analysis frameworks provide structure for research findings (cataloging related people, places, things, and activities), or documentation of a user's experience (illustrating timeline and associated activity)
- Frameworks are helpful because:
 - They allow designers to **empathize with their audience**
 - They provide a **repository for information collected** (either thru collaboration or to be shared for feedback)
 - The resulting visualizations provide **prompts for discussion**
 - They **help designers** connect concepts, find patterns, illustrate subject associations, demonstrate event sequences, compare and contrast, and more
 - They **feel familiar**, because in many ways the process mirrors ideation exercises
- Once findings are finalized, they allow us to move forward with ideas worth exploring through the iterative process (ideate/make/test/refine)

Which one do I choose?

Selecting an analysis framework

- Although some designers use proprietary systems to process their research findings, numerous **general purpose frameworks** for conducting and analyzing ethnographic research **exist**
- Many are rooted in the work of **James P. Spradley**, a cultural anthropologist
- Spradley developed a tool for structuring ethnographic observations that he called the **Descriptive Observation Matrix**
- This is the framework we will use for analyzing your findings in this course/project



- Spradley's Matrix contains **9 categories** which require the researcher to consider how categories that may seem disconnected influence each other
- When **compiling research** (either from multiple activities or from several researchers), **look for gaps in the matrix**
- They may **indicate** an area where **more research** is needed, or may reveal an **opportunity for design** to fulfill an unaddressed need

Spradley’s Matrix

Categories and Instructions for Use

1. Space	2. Object	3. Act	4. Activity	5. Event	6. Time	7. Actor	8. Goal	9. Objects
Describe the physical environment in detail.	Take stock of relevant objects in the environment	Catalog the behaviors of the individuals under observation	Detail the actions performed by participants, including interactions with other individuals, objects, and the environment.	Connect activities to happenings,or events.	Chronicle the time and date of the observation, and the amount of time spent engaged in activities.	Describe the people under observation.	Note what the people under observation are trying to achieve in their activities.	Take stock of relevant objects in the environment

- Spradley suggested that placement of the categories be repeated on both the X and Y axes of the matrix, forcing the researcher(s) to explore how each classification influenced the other.
- Use Spradley’s categories as a reference point for your own framework. Adjust category quantity and titles to align with the goals of your investigation or project. The take-away is to be cognizant of **people**, the **places** they go, the **things** they use or encounter, and **actions** they undertake.

	Spaces	Objects	Act	Activities	Event	Time	Actor	Goal	Feeling
Spaces physical environment described in detail	Can you describe in detail all of the places?	What are all the ways space is organized by objects?	What are all the ways space is organized by acts?	What are all the ways space is organized by activities?	What are all the ways space is organized by activities?	What spatial changes occur over time?	What are all the ways space is used by actors?	What are all the ways space is related to goals?	What places are associated with feelings?
Objects relevant objects in the environment	Where are objects located?	Can you describe in detail all of the objects?	What are all the ways objects are used in acts?	What are all the ways objects are used in activities?	What are all the ways that objects are used in events?	How are objects used at different times?	What are all the ways objects are used by actors?	How are objects used in seeking goals?	What are all the ways objects evoke feelings?
Acts the behaviours of individuals under observation	Where do acts occur?	How do acts incorporate the use of objects?	Can you describe in detail all of the acts?	How are acts a part of activities?	How are acts a part of events?	How to acts vary over time?	What are the ways acts are performed by actors?	What are all the ways acts are related to goals?	What are all the ways acts are linked to feelings?
Activities actions performed by participants, including interactions with other individuals, objects, and the environment	Where are all the places activities occur?	What are all the ways activities incorporate the use of objects?	What are all the ways activities incorporate acts?	Can you describe in detail all of the activities?	What are all the ways activities are part of events?	How to activities vary at different times?	What are all the ways activities involve actors?	What are all the ways activities involve goals?	How do activities involve feelings?
Events connect activities to happenings or events	Where are all the places events occur?	What are all the ways events incorporate objects?	What are all the ways events incorporate acts?	What are all the ways events incorporate activities?	Can you describe in detail all of the events?	How to events occur over time? Is there any sequencing?	How do events involve the various actors?	How are events related to goals?	How to events involve feelings?
Time the time and date of observation AND the amount of time spent by actors engaging in activities	Where do time periods occur?	What are all the ways time effects objects?	How to acts fall into time periods?	How do activities fall into time periods?	How do events fall into time periods?	Can you describe in detail all of the time periods?	When are all the times the actors are “on stage”?	How are goals related to time periods?	When are feelings evoked?
Actors the people that the research is centred around	Where do actors place themselves?	What are all the ways actors use objects?	What are all the ways actors use acts?	How are actors involved in activities?	How are actors involved in events?	How to actors change over time or at different times?	Can you describe in detail all of the actors?	Which actors are linked to which goals?	What are the feelings experienced by actors?
Goals what the participants are trying to achieve	Where are goals sought and achieved?	What are all the ways goals involve the use of objects?	What are all the ways goals involve acts?	What activities are goal seeking or linked to goals?	What are all the ways events are linked to goals?	Which goals are scheduled for which times?	How do the various goals affect the various actors?	Can you describe in detail all of the goals?	What are all the ways goals evoke feelings?
Feelings discernible emotions expressed by the actors	Where do the various feeling states occur?	What feelings lead to the use of what objects?	What are all the ways feelings involve acts?	What are all the ways feelings affect activities?	What are all the ways feelings affect events?	How are feelings related to various time periods?	What are all the ways feelings involve actors?	What are the ways feelings influence goals?	Can you describe in detail all of the feelings?

Student behaviours in online classes

- Space: Describe the physical environment in detail.
- Object: Take stock of relevant objects in the environment.
- Act: Catalog the behaviors of the individuals under observation.
- Activity: Detail the actions performed by participants, including interactions with other individuals, objects, and the environment.
- Event: Connect activities to happenings, or events.
- Time: Chronicle the time and date of the observation, and the amount of time spent engaged in activities.
- Actor: Describe the people under observation.
- Goals: Note what the people under observation are trying to achieve in their activities.
- Feelings: Recount any discernible emotions expressed by the individuals under observation.

	Spaces	Objects	Act	Activities	Event	Time	Actor	Goal	Feeling
Spaces physical environment described in detail	Can you describe in detail all of the places?	What are all the ways space is organized by objects?	What are all the ways space is organized by acts?	What are all the ways space is organized by activities?	What are all the ways space is organized by activities?	What spatial changes occur over time?	What are all the ways space is used by actors?	What are all the ways space is related to goals?	What places are associated with feelings?
Objects relevant objects in the environment	Where are objects located?	Can you describe in detail all of the objects?	What are all the ways objects are used in acts?	What are all the ways objects are used in activities?	What are all the ways that objects are used in events?	How are objects used at different times?	What are all the ways objects are used by actors?	How are objects used in seeking goals?	What are all the ways objects evoke feelings?
Acts the behaviours of individuals under observation	Where do acts occur?	How do acts incorporate the use of objects?	Can you describe in detail all of the acts?	How are acts a part of activities?	How are acts a part of events?	How to acts vary over time?	What are the ways acts are performed by actors?	What are all the ways acts are related to goals?	What are all the ways acts are linked to feelings?
Activities actions performed by participants, including interactions with other individuals, objects, and the environment	Where are all the places activities occur?	What are all the ways activities incorporate the use of objects?	What are all the ways activities incorporate acts?	Can you describe in detail all of the activities?	What are all the ways activities are part of events?	How to activities vary at different times?	What are all the ways activities involve actors?	What are all the ways activities involve goals?	How do activities involve feelings?
Events connect activities to happenings or events	Where are all the places events occur?	What are all the ways events incorporate objects?	What are all the ways events incorporate acts?	What are all the ways events incorporate activities?	Can you describe in detail all of the events?	How to events occur over time? Is there any sequencing?	How do events involve the various actors?	How are events related to goals?	How to events involve feelings?
Time the time and date of observation AND the amount of time spent by actors engaging in activities	Where do time periods occur?	What are all the ways time effects objects?	How to acts fall into time periods?	How do activities fall into time periods?	How do events fall into time periods?	Can you describe in detail all of the time periods?	When are all the times the actors are “on stage”?	How are goals related to time periods?	When are feelings evoked?
Actors the people that the research is centred around	Where do actors place themselves?	What are all the ways actors use objects?	What are all the ways actors use acts?	How are actors involved in activities?	How are actors involved in events?	How to actors change over time or at different times?	Can you describe in detail all of the actors?	Which actors are linked to which goals?	What are the feelings experienced by actors?
Goals what the participants are trying to achieve	Where are goals sought and achieved?	What are all the ways goals involve the use of objects?	What are all the ways goals involve acts?	What activities are goal seeking or linked to goals?	What are all the ways events are linked to goals?	Which goals are scheduled for which times?	How do the various goals affect the various actors?	Can you describe in detail all of the goals?	What are all the ways goals evoke feelings?
Feelings discernible emotions expressed by the actors	Where do the various feeling states occur?	What feelings lead to the use of what objects?	What are all the ways feelings involve acts?	What are all the ways feelings affect activities?	What are all the ways feelings affect events?	How are feelings related to various time periods?	What are all the ways feelings involve actors?	What are the ways feelings influence goals?	Can you describe in detail all of the feelings?

To learn more

Check out this resources

- **A Designer's Research Manual** (book)
 - eBook available thru library here:
<https://tinyurl.com/y5aezgy8>

