



Developing a Research Plan

DESN 24427 Design Strategy & Computation

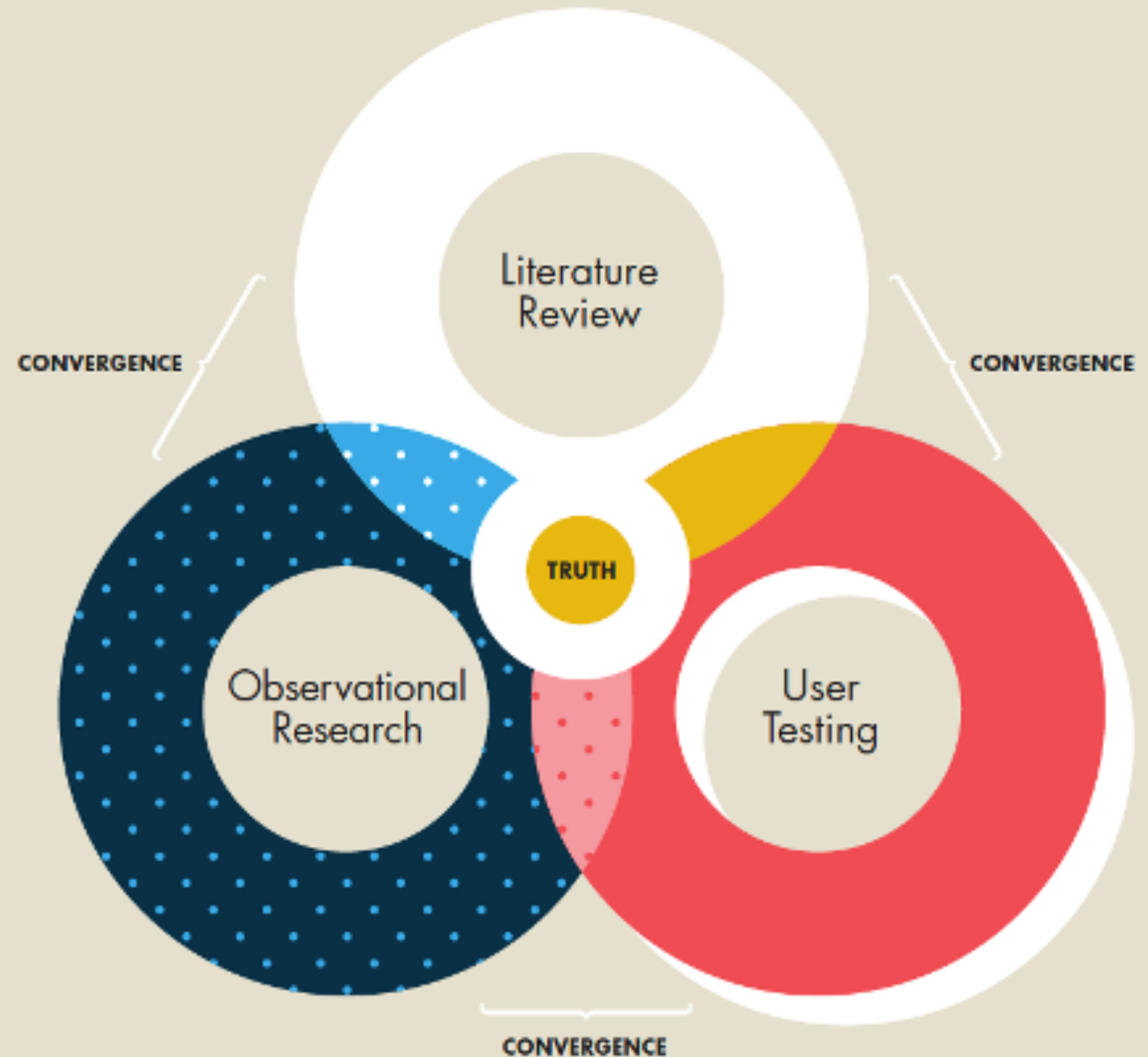
**What do you remember from your Research
Methods class?**

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

Where findings begin to overlap is called **convergence**, which is the **best representation of truth** in the information gathered.

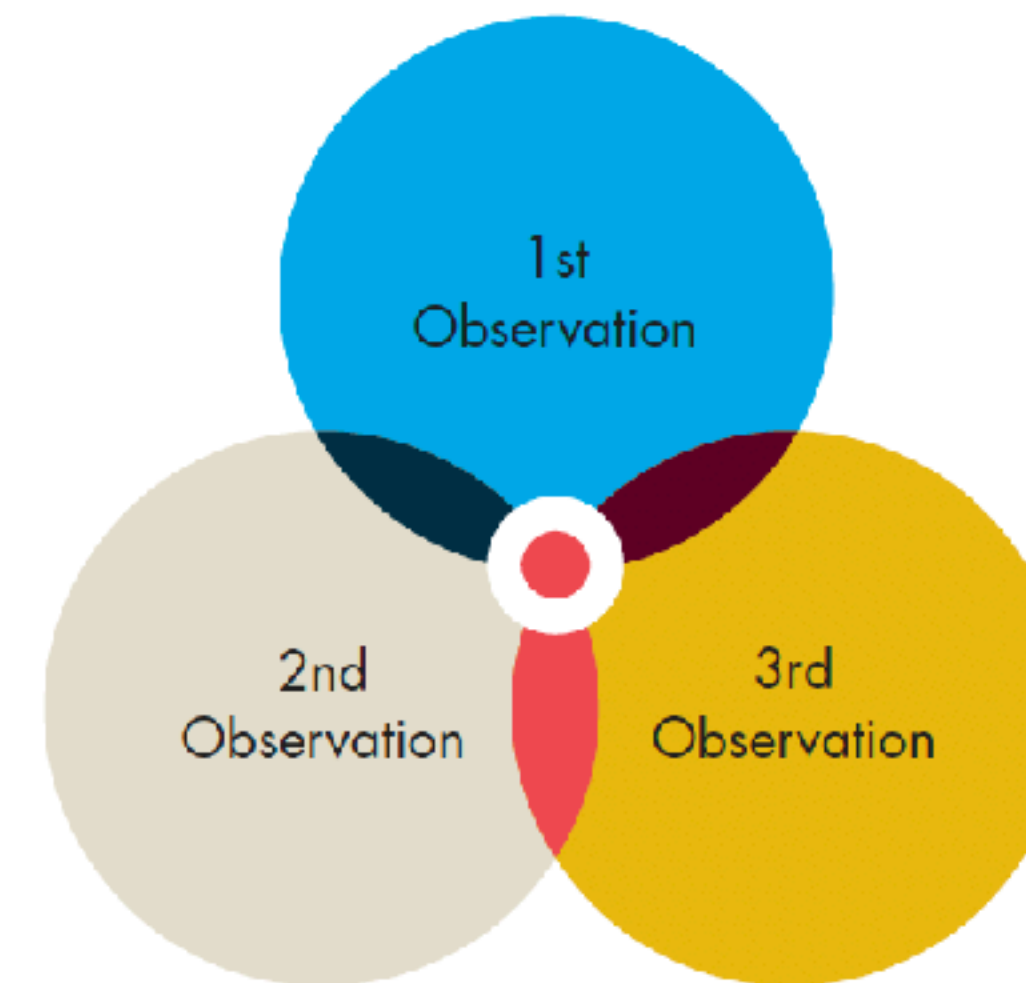


Research triangulation

More ways of using triangulation

- The concept of triangulation doesn't just apply to the use of multiple research methods
- You can also triangulate results from observations collected over a span of time, or use the process to compare notes from multiple investigators

TRIANGULATION OF
OBSERVATIONS



TRIANGULATION OF
INVESTIGATORS



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.

Think of a time in your research methods class where you found convergence.

Developing a research plan

Take time to think before you jump into the doing

- Make a plan before you begin researching to organize your thoughts, guide your team, and help you bring key stakeholders on board
- The plan should outline what you're going to do, and why you're doing
- While every project is unique and requires customization this is a basic adaptable general model for your plan:
 - **Assumptions:** list any ideas you, your team, or stakeholder may have going into the project
 - **Research Questions:** create questions relevant to the project goals and determine what you already know and what you need to find out
 - **Methods:** choose tools that will give you the most valuable information as quickly and efficiently as possible

KWHL Tables

Tactic for developing a research plan

- The KWHL process forces you to rapidly identify what you do—and do not—know about your problem space
- Use this technique to kick off your research and work through early project assumptions

What do I
know?

What do I need
to find out?

How will I find the
information I need?

What have I
learned?

KWHL tables in action

How to use this research planning tool

what do I KNOW ?	WHAT do I need to find out?	How will I find the information?	What have I LEARNED ?
<ul style="list-style-type: none">• Outline your understanding of facts and information related to problem space• List some of those assumptions you've just generated• Visually differentiate proven fact from assumption for clarity• If assessing multiple problem spaces or complex problem spaces, it may help to build KWHL tables for• Use grids and colour coding to clarify understanding	<ul style="list-style-type: none">• Fill in the gaps between what you know for certain, and where you're less sure and have questions• What do you need to investigate and uncover in order to make the project a success?• Groups of people working together are often more successful completing this step as conversation around this question tends to generate more insights and queries than one person would working alone	<ul style="list-style-type: none">• Time to connect design methods to questions• Be mindful of how much time you have to devote to this exercise and plan information seeking strategies that will deliver the most accurate, detailed information in the most efficient manner• For example, it's easy to turn to Internet searches, but equally easy to find false information or fall down digital rabbit holes. Perhaps interviews are a faster path to a the same info?	<ul style="list-style-type: none">• After conducting research, complete the chart, recording what you've learned• Don't forget to keep your sources well documented for future reference• Findings will either confirm assumptions and answer questions, or raise new areas of investigation

Design Research Methods

Things to use for the ‘H’ in a KWHL (not an exhaustive list)

You must complete
2 design methods
and a brief literature
review as part of P1!

Type of info needed	Method(s) to consider	Instructions for those methods
Existing info about this problem space	Literature Review Subject Matter Expert Interview	<ul style="list-style-type: none">• A Designer’s Research Manual (book) https://tinyurl.com/y5aezgy8• 101 Design Methods (book) https://ebookcentral.proquest.com/lib/sheridanc-ebooks/detail.action?docID=861699&query=101+design+methods• Universal Methods of Design (book) https://ebookcentral.proquest.com/lib/sheridanc-ebooks/detail.action?docID=3399583&query=universal+methods+of+design
How people behave/act when trying to do the task	Observation (POEMS, 5 Factor, AEIOU)	
How people feel when trying to do the task?	Interviews (semi-structured)	
Do similar solutions exist in other areas?	Analogous Models Competitor Analysis	

To learn more

Check out these resources

- **A Designer's Research Manual** (book)
 - eBook available thru library here:
<https://tinyurl.com/y5aezgy8>
- **101 Design Methods** (book)
 - eBook available thru library here:
<https://ebookcentral.proquest.com/lib/sheridanc-ebooks/detail.action?docID=861699&query=101+design+methods>
- **Universal Methods of Design** (book)
 - eBook available thru library here:
<https://ebookcentral.proquest.com/lib/sheridanc-ebooks/detail.action?docID=3399583&query=universal+methods+of+design>

