

Unit-3

3.0.Explore Define phase:

- As a Design Thinker it need to cover all the points and answers that got in the Empathize Phase.
- This is where the process of synthesis comes into picture.
- Clubbing all the answers together and convert them into a **coherent single statement Called Problem statement nothing but Define Phase**
- The first step towards defining a problem is to find who the user is, what is his/her/their needs and then develop insights from the answers
- Think of **‘How might we?’** questions
- For example, ‘how might we motivate the employees in DT?’, ‘How might to reduce the cost of knowledge transfer program without compromising its quality and the mandatory pre-requisite resources?’
- The following guidelines will help a design thinker to come up with ‘how might we’ questions.
 - ❖ **Amplify the good:** A design thinker must think how to amplify the positive aspects of the customers’ needs
 - ❖ **Eliminate the bad:** Design thinkers need to remove all the bad elements observed in the problem
 - ❖ **Explore the opposite:** Design thinkers need to brainstorm on how to convert the problem into an opportunity
 - ❖ **Question the Assumptions:** This step involves questioning the assumption at hand
 - ❖ **Identify the Unexpected Resources:** Design thinkers should try to find whether some other resources not mentioned by the customer can be leveraged
 - ❖ **Create an Analogy:** Design thinking also involves, among many other things, how to create connections between the problem at hand and unrelated images
 - ❖ **Break the Problem into Pieces:** This is where again analysis comes into picture for a short while before the problem definition can be synthesized
- Mycoskie navigated the transition from the **Empathize** stage of design thinking to the **Define** stage
- The transition between the **Empathize** and **Define** stages hinges on the concept of **unpacking**
- unpacking tells the talking to, observing and learning about customers and creating a system for turning those insights into something actionable
- Unpacking insights from the Empathize stage does not have to be a complicated process
- The tasks involved in synthesizing empathy and definition can be as simple as breaking out a stack of sticky notes.\

- The primary goal of the unpacking stage is sharing what that learned with other designers and the rest of team members.
- it is important that everyone on the team is on the same page about the information gathered in the Empathize stage.
- Having a complete understanding of the customer and his or her needs will help you form a **problem statement**, which is a written expression of customer’s or end user’s problem

3.1 The Point of View (POV) and its purpose:

- **Point of view**, or POV, in design thinking is a written, actionable statement that expresses the problem that the design team is trying to address. This is also often called a **problem statement**
- that is, an expression of the problem (or problems that customers identified the Empathize stage
- In fact, crafting a POV statement is the central purpose of the **Define** stage of design thinking. It provides a framework for designers to use in later brainstorming sessions
- *“If I had an hour to solve a problem, I’d spend 55 minutes thinking about the problem and five minutes thinking about solutions.” – Albert Einstein*
- **User need statements**, also often called **problem statements** or **point-of-view statements**, are the primary tool in the second stage of design thinking — the define stage
- A **user need statement** is an actionable problem statement used to summarize who a user is, the user’s need, and why the need is important to that user. It defines what you want to solve before you move on to generating potential solutions, in order to 1) condense your perspective on the problem, and 2) provide a metric for success to be used throughout the design thinking process.

How to Create POV:

- ❖ A good POV will allow you to ideate and solve your challenge in a goal-oriented manner – keeping the focus on your users, their needs and your insights about them



- ❖
- ❖ may come up with multiple POVs depending on the insights gained in interviews.

POINT OF VIEW STATEMENT

_____ needs a way to _____
(user name) (verb)

because _____
(surprising insight)

Steps for creating POV:

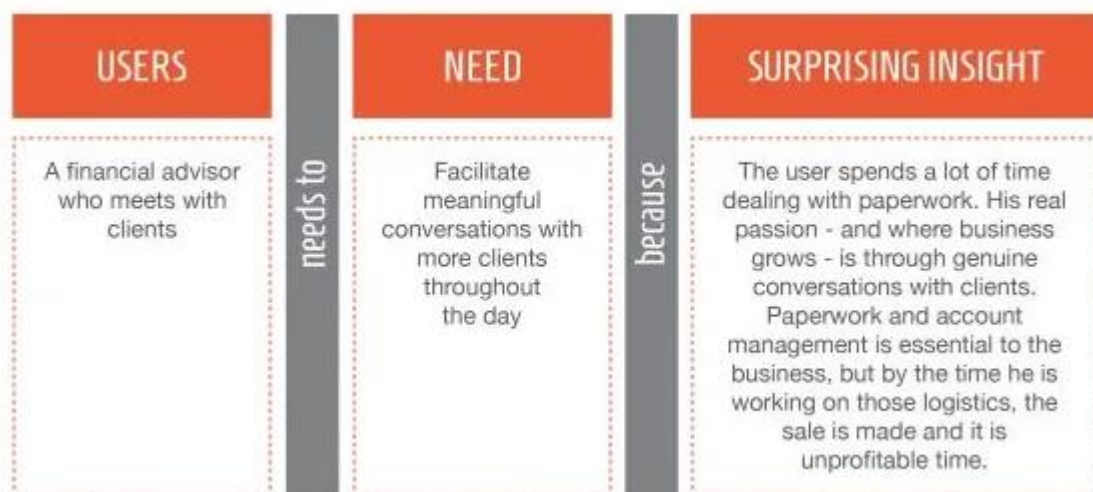
Step 1: Identify Users, Needs & Insights

There are three key components that make up the POV statement:

- **User:** Defines the type of specific user whom writing POV about.
- **Need:** Identifies the users' essential needs/goals.
- **Surprising Insight:** Synthesizes the gathered information into a key takeaway. This statement can be used to design a solution

Step 2: Create Your Chart

Place your scenario into a template like the example below. This creates a guide for structuring your POV statement



Step 3: Form Your POV Statement

This is the fun part where you combine your user, needs and insight into a concise POV statement. If necessary, condense your statements to create a good story.

More Tips for Your POV Statements

- Keep the focus narrow.

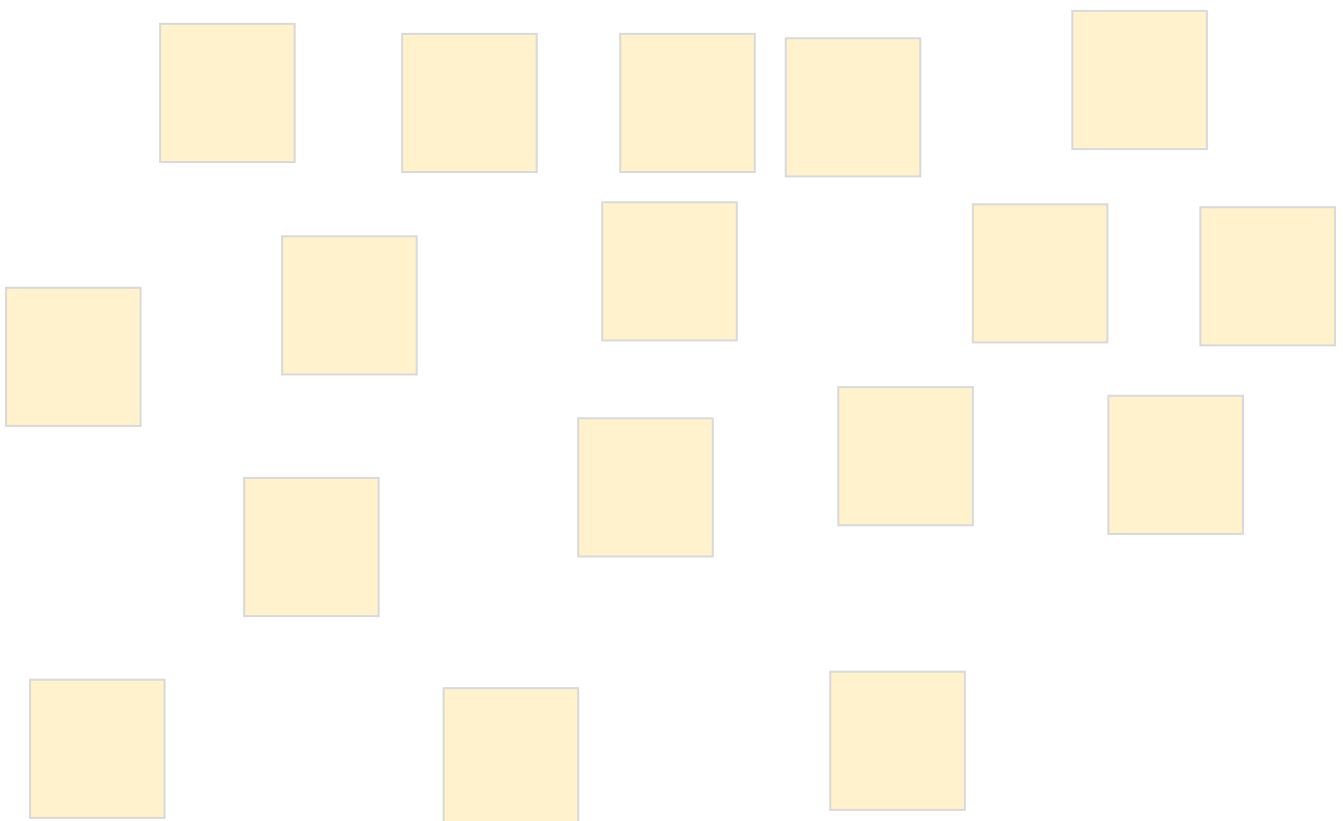
- Frame the challenge as a problem statement.
- Use them to evaluate competing ideas.
- Make them actionable.
- Remember, these statements will guide your innovation efforts and provide inspiration for your team

❖ *Note: Since feelings, thoughts, and beliefs cannot be directly observed, infer those by carefully paying attention to clues*

- **Write down needs.** “Needs” are emotional or physical necessities. They are activities and desires, *not* solutions. Identify needs from traits or from contradictions – such as a disconnect between what he/she says and does. Write them down on the side of your empathy map
- **Write down insights.** An “insight” is a remarkable realization that you could leverage to better respond to a challenge. Insights often grow from contradictions between two user attributes (either within a quadrant or from two different quadrants) or from asking yourself “Why?” when you notice strange behavior. Write down potential insights on the side of your map. Capture tensions and contradictions as you work.


3.2 Story share-and-capture:

Type in one of your findings into each “sticky note.” Each sticky note should contain a short title that describes the finding. Organize your sticky notes into groups based on a theme or pattern. Looking at these groupings did you learn anything surprising or interesting?



3.3 Persona

Persona development is to create user models –characters with a clearly defined purpose and characteristics –who will represent your target users

PERSONA CANVAS	Persona Name:	
Demographic Profile: Age: Gender: Home: Family: Education Background:	Goals:	Deep Need Statement:
Hobbies/Likes/Dislikes:	Motivation/Aspiration:	Diversity of Needs: 
Social & Family Lifestyle:	Challenges/Pain Points:	
	Behavior:	

Example for problem statement:

Context: Students are not enjoying teaching process in school. **From the example Empathy-2**

Problem statement:

My Stakeholder A sincere, ambitious, smart working guy holding master's degree **needs** a way to learn to be employable **because** to get a better job opportunities student must understand & remember what is taught to them in school.

3.4. State users' needs and problems using empathy methods

- User need statements also often called problem statements or point of view statements, are the primary tool in the second stage of design thinking -define stage. They align different points of vies before moving forward into ideating.



User Need Statements *The 'Define' Stage in Design Thinking*

- During Define phase empathy helps to define the problem statement. This stage based on what have learned about customer and context.
- During this phase, designer is wanting to organize their research using a different lens, maps or frameworks.
- **Empathy Map** — organize by consumer thinking/feeling, what they are experiencing and pains
- **Customer Journey** — organize along with how the consumer shops or interacts with the product
- **Point of View** — focusses on your **insights** about your **users** and their **needs**.

A good problem statement should thus have the following traits. It should be:

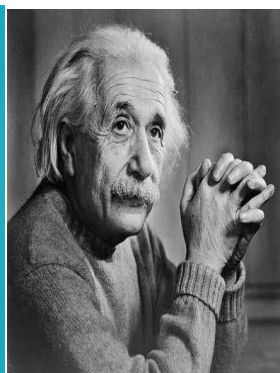
- **Human-centered.** This requires you to frame your problem statement according to specific users, their needs and the insights that your team has gained in the Empathize phase.
- **Broad enough for creative freedom.** This means that the problem statement should not focus too narrowly on a specific method regarding the implementation of the solution. The problem statement should also not list technical requirements, as this would unnecessarily restrict the team and prevent them from exploring areas that might bring unexpected value and insight to the project.
- **Narrow enough to make it manageable.** On the other hand, a problem statement such as, “Improve the human condition,” is too broad and will likely cause team members to easily feel daunted

Summary:

- Using Empathic Design Principles as guide, designer will give new perspectives on the lives of end users-including the challenges they face, the things that keep them tight, and the moments that delight them.
- Empathy can Give the insights need to solve hard, &worthwhile problems
- Empathy helps innovators to understand what is important to users
- Empathy is the foundation for developing solutions that are perceived by designers as relevant and meaningful, as genuinely valuable, easy to understand, and pleasantly satisfying even delightful.
- In the define stage designer accumulate the information, created and gathered during the empathize stage.
- Designers analyze the observations and synthesis to define the core problems that design teams identified
- Designer should always seek to define the problem statement in a human- centered manner.

Ideation Methods:

" creativity is a journey, not a magic event".

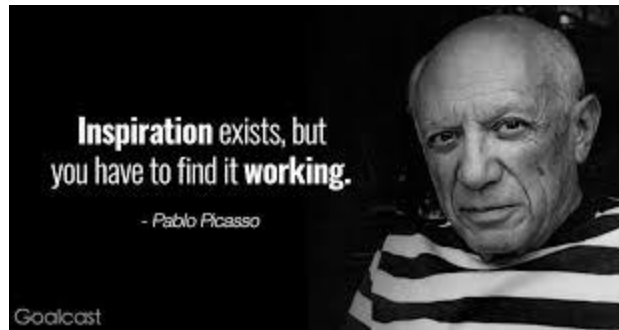


"Creativity is contagious,
pass it on"

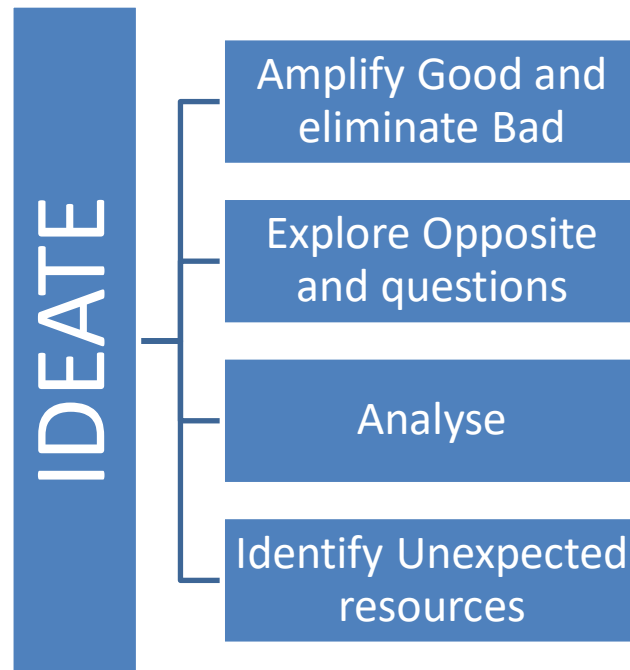
- Albert Einstein

Twinkl.com

"Inspiration exists, but it has to find us working."



- In the ideate phase of the design thinking process that initial ideas for problem solving are developed.
- Ideally, Different techniques should be combined to get new in pulses for the generation of the ideas.
- Especially in this phase it is important to **generate as many ideas as possible** and to select one idea from them.
- In ideate phase the designer will start generating some rational concerts that seek to solve the problem by using the problem statement.
- Typically, these ideas are rough- those that it results from the brainstorming. The important thing hear is to " **think outside the box**" and generate and generate multiple ideas so that in the next stage draw some options for prototyping.
- The objective of the Idea generation phase is to find creative ideas that will solve the targets and challenges of users. This is the phase in which the design team's creativity and imagination should be at the top level.
- To be a good idea, it needs to be focused on the people, are how the idea fits the **needs, problems, and their goals**. That is why it is important to understand how the ideas gives values and the usefulness to the beautiful or feasible solution.
- This ideate phase of the design thinking processes is the most interesting and perhaps, the most rigorous as well.
- In this phase designer or designers supposed to bring to the table as many ideas as possible.



- The term “ideate” is just a fancy way of saying that designer want to come up with ideas, and there is no shortage of ways to accomplish that.
- When designers talking about the ideate stage, i.e it is the point in the design process where designers come up with a large volume of ideas to find and implement the most creative one.
- The purpose of the ideate stage is to push for the widest range of ideas that can be implemented in later stages.
- The ideate stage is important because it is when a design team moves from understanding and defining consumer/user/client/customer problems to coming up with solutions for those needs.
- Without the ideate stage the problem remains just the problem.
- Ideating allows a design team to consider creative ways to address the needs of the user have highlights in the [empathize stage](#) and more clearly outlines in the [Define stage](#)
- In this process, design thinkers also resort to use of boards, sticky notes, sketching, chart papers, mind maps etc.

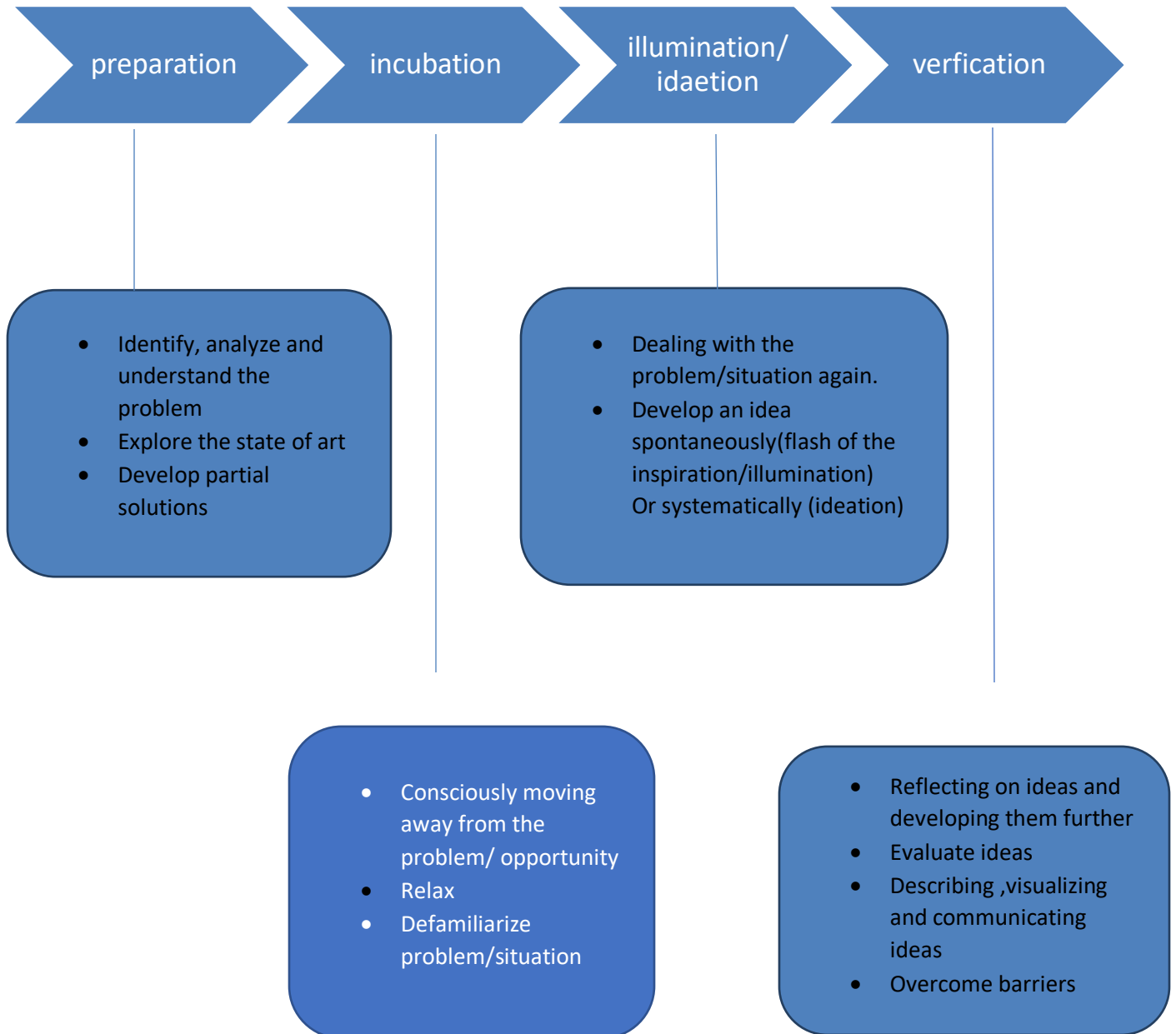
3.5 The creative process and creative principles:

- creativity means thinking something new, whereas innovation means implementing something new.
- In this respect creativity is an integral part of every innovation project, regardless of whether it is aimed at a new product, service, process, social/ organizational change, or business model.
- Creativity is not an event but can rather be understood as a Process. The design thinking approach takes up this creative process.
- Creativity is the ability to come up with ideas that are new, surprising, and valuable.
- To get such ideas, we need a way of looking at problems or situations from a fresh perspective that suggests unorthodox solutions (which may look unsettling at first) which is called Creative Thinking.

+



3.5.1. The creative process source: according to Walla's (1926)



3.5.2. Creative principles:

1. Principle of decomposition:

The problem, the task, the process steps, or the product/service to be redesigned is broken down into its components and then these compounds are varied/ combined a new

2. Principle of association:

By Association one understands the linking of ideas, information, perceptions, and emotions. In the sense of a free Association, **brainstorming** or brain writing are to be mentioned. The Walt Disney method and 6- thinking hats - technique can be understood as structured associations.

3. Principle of analogy and confrontation:

Technology and confrontation are targeted changes of perspective and are based on the confirmation with the different areas.

4. Principle of abstraction and imagination:

The basic principle of abstraction and imagination, the problem is solved on a higher or illusionary level.

5. Challenge common wisdom and industry conventions:

Nothing is to be accepted as given ask questions why this is so, why this is not so, why this should be so not to be so and why this can also be different.

6. Do mental exercise:

Demand a new number of new ideas from yourself. Under pressure and try to develop new ideas from one or more problems per day

7. Change your habits:

Do something completely different: Changing habits and conventions is a success factor specially for radical innovation.

8. Do experiment:

The trial under the approach is already given rise to countless innovation ideas.

9. Do networking:

Search or promote Exchange with others example people from other disciplines, cultures, business areas, departments are extra partners.

10. Overcome the barriers to creativity:

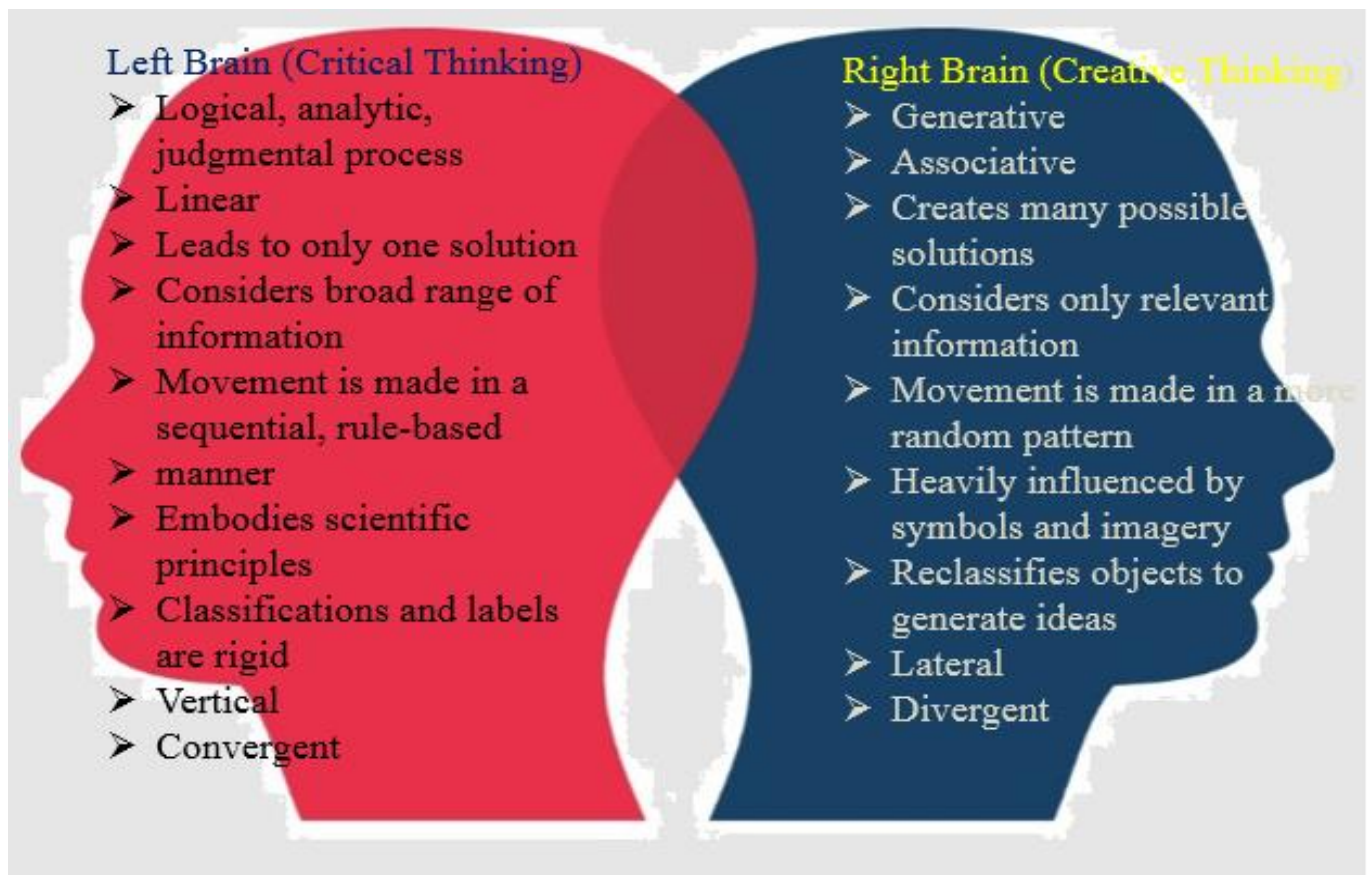
One of the essential success factors the creative process is overcoming the numerous and where did creative blockades

Examples of create to blockades are the following.

- Creativity disturbing environment
- Stress
- Lack of recognition/ no reward for creative work
- Two rigid or strict institutional controls
- Fear of change, risk aversion
- Perfectionism, search for the right things
- Pure logical thinking
- Self-satisfaction with what has been achieved so far.

3.5.3. Brain dominance theory:

- Gives relationship between right brain and left brain.
- Left brain handles information in analytical, rational, logical, sequential way.
- Right brain function by recognize relationships, observing information in intuitive way.
- Best creativity is achieved with good communication between these two.

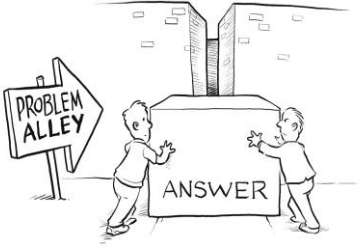


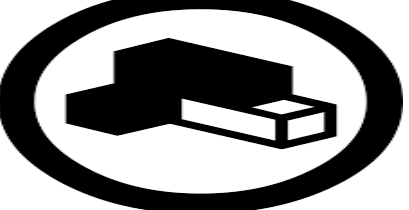



3.6. Steps to enhance creative thinking:

- Develop a creative attitude.
- Unlock your imagination.
- Be persistent.
- Develop an open mind.
- Suspend your judgment.
- Set problem boundaries.

3.7. Barriers to creative thinking (Mental block):

J.L. ADAM's Mental Blocks:

1	Perpetual Block	<ul style="list-style-type: none"> • Stereotyping • Information overload • Limiting problem unnecessarily • Fixation • Provision of cues 	
2	Emotional Block	<ul style="list-style-type: none"> • Fear of risk taking. • Unease with chaos • Unwilling to incubate • motivation 	
3	Cultural Block	<ul style="list-style-type: none"> • Setting too formal • Often strong resistance to change. • Overlay analytical thinking 	
4	Intellectual Block	<ul style="list-style-type: none"> • Poor choice of problem-solving language • Memory block • Insufficient knowledge 	

5	Environment Block	<ul style="list-style-type: none"> • Physical environment • Criticism 	
---	-------------------	---	---

3.8. Creativity techniques:

- Creative techniques divided into intuitive creative methods and systematic analytical methods.
- The intuitive- creative techniques try mostly in a group to simulate spontaneous ideas, associations, and analogies to overcome blockades of thought in a rather free design.
- The principles of decomposition and abstraction are increasing the applied to systematic analytical techniques.
- It should be noted that not every creativity technique is a suitable for every question and for every team.
- Creativity is ultimately very individual, everyone has their own idea, experience habits, preferences as well as strengths and weaknesses.
- In this respect one should experiment with his creativity techniques



Ideating at Apple might include a variety of brainstorming methods to think of creative ideas for new headphones.

3.9. Creativity Techniques:

Instiutive creative techniques	Systematic -analytical techniques
• Brainstorming	• Osborn Checklist (SCAMPER)
• Brain Writing	• Mind Mapping
• Random Word Techniques	• Synectic
• Semantic intuition/ the perfect prefix	• Bionics

<ul style="list-style-type: none"> • Forced Relationship 	<ul style="list-style-type: none"> • Morphological box/sequential morphology's/Attribute Listing
<ul style="list-style-type: none"> • Provocation Technique 	<ul style="list-style-type: none"> • HIT
<ul style="list-style-type: none"> • Walt-Disney Method 	<ul style="list-style-type: none"> • Lotus Blossom
<ul style="list-style-type: none"> • Six Thinking Hats 	<ul style="list-style-type: none"> • TRIZ
<ul style="list-style-type: none"> • Delphi Method 	<ul style="list-style-type: none"> • SIT

3.10. Brainstorming

Brainstorming is, so to speak, the mother of all creativity techniques (linguistically from: " using the brain to storm the problem). Ideas about a question a solution to a problem should be Express spontaneously in a group.

- ❖ It is a group activity technique.
- ❖ It is designed to generate lots of ideas for solution of a problem.
- ❖ It is a commonly used tool by academicians, researchers, and business teams.
- ❖ The Value of brainstorming is not the ideas generated; it is the shared value/evaluation context created. The experience of brainstorming creates a group of people with a shared perspective, and an understand of each other's communication styles, who are then capable of providing a useful and powerful critique of future work on the topic.



3.10.1. Rules of brainstorming:

- **No criticism:** Each criticism a rating is postponed to a subsequent face the so-called killer phrases must be strictly prohibited. In this way it should be prevented that the flow of ideas is interpreted, or participants are blocked. Comment also forbidden.
 - **No copyright:** The ideas of others can and should be taken up, changed, and further developed.
 - **Free expansion of ideas:** The participant should give free rein to their imagination so that new and original ideas can be found. You are the craziest ideas are welcome.
 - **Quantity over quality:** As many as possible should be produced in a short back. This rule insurance the spontaneity of the ideas presented.
- So, these rules should be written on the flip chart and visible to everyone doing the brainstorming session.

3.10.2. Tips for how to brainstorm:

- ❖ Take sufficient time to clarify define the problem or question in advance.
- ❖ The problem should be challenging to motivate.
- ❖ The question should be focus and not too abstract (what not too specific or even imply a solution)
- ❖ it should be customer- oriented question that is actively formulated.
- ❖ The question can also be communicated in advance with the invitation and is asked to already think about possible solution Idea as a kind of homework.
- ❖ The group size should lie between two and almost 12 persons Ideally 5 to 8.
- ❖ In case of heterogeneous group of participants who do not know yet know each other well, so organizer should insert a warmup phase beforehand.
- ❖ Always structure a creativity workshop with Fixed time phases. This means that brainstorming sessions must be limited in time.
- ❖ Use "yes" and instead of "yes, But.... In the introduction
- ❖ Number of Ideas
- ❖ Build on ideas of others and jump from Idea to Idea.
- ❖ Only onespeak.
- ❖ always encourage the active participation of all the participants. The person should be informed at a fixed time what has become theiridea.

3.10.3. Few tips on how to guarantee you destroy a brainstorming session.

- The boss talks first and sets the goal and the requirements.
- The contributions should be given in a sequence.
- Only experts can submit ideas.

- No silly ideas are allowed.
- Everything is written down.

3.10.4. Trigger-Questions for brainstorming

1. How might we...? Technique:

This is a similar questioning technique to the user story.

How could we (how might we)_____ (product service offer)

For (persona)_____ develop/ offer/ create under the following conditions _____
(problems, legal regulations, environmental conditions changes)

2. Yes and- technique:

It must Not be started to comment with "yes, but"... But it only with "Yes, and.". This should support the ideas put forward by others in the sense of constructive feedback and further develop them.

3. What- if- technique:

With the question " what if we..."(what-if) is to be put into another person/ company) when finding a solution

4. Why- how laddering approach:

The questions why and how are asking alternately. With why questions the reason for the problem should be summarized and recapitulated with the subsequent how question. With how you get detailed answers

3.10.5. Variants of brainstorming

1. Step by step brainstorming:

After a first printing session, the most interesting idea is used as a starting point for another brainstorming session. This allows you to find ideas from a general solution to a special one.

2. Anonymous brainstorming:

The idea written by the participant in block letters on a card called brain cards. A moderator read the anonymous ideas aloud and, on this basis, they are brainstorm further or ideas are clustered and evaluate.

3. **Visual brainstorming/ brain painting:**

Recorded graphically with paper and pencil (or digitally). Discrete sketch like images in the form of spontaneous scribbles, which do not have to be perfect, these can be abstract later.

4. **Blindstorming:**

The brainstorming takes place using face mask or in a complete darkness so the participants or not distracted by visual stimuli or gestures /mimics of other participants.

5. **brain Walking:**

The spontaneous ideas for the participants are written on white board or posters distributed throughout the room.

6. **Speed storming:**

Participants exchange questions in pairs for a few minutes and then change chairs to talk to another person's.

7. **Stop and go brainstorming:**

The brainstorming session is deliberately interrupted at a fixed time and filled with the passes are other techniques in the meantime. alternatively, phases of Idea generation can be altered with the phases of valuation.

8. **Body storming/ role storming:**

During the brainstorming session, the participants to take on a certain role and Associate/ formulate their contributions/ ideas from the point of view. The roles can be specific customers/ user who have been characterized by the persona technique.

9. **Brain station:**

Groups of participants work on different questions at different stations (rooms without separate work areas) using brainstorming. The participants change stations after fixed period.

10. **E-Brainstorming:**

Ideas are communicated electronically via chat/ instant messaging systems so that people can participate at different locations.

11. Reverse Brainstorming:

There is also talked of reverse brainstorming and only negative aspects are sought. Here the different aspects of the question and problem can be considered. What is currently bad about the situation? Why can't the problem be solved? What should go wrong?

12. Headstand method:

The question is completely reversible also speaks of the headstand method. How can we make X worse? Make it as complicated as possible? Increase in price? To discourage customers as much as possible? in the next step all ideas can be turned back into positive.

3.10.6. Brainstorming Techniques:

1. Freewriting:

- Write down whatever comes into mind.
- Do not judge the quality of writing.
- Do not worry about style, spelling, grammar, or punctuation.
- When you have finished your writing and have reached your goal, read back over the text, decide the solution.



2. Nominal Group Technique:

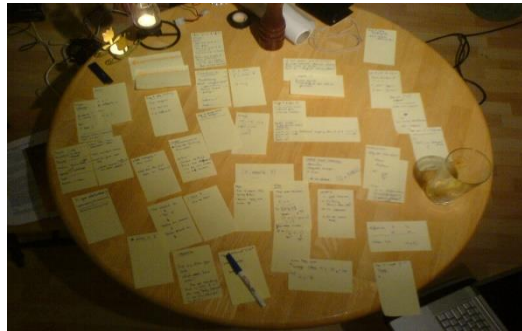
- Participants are asked to write their ideas anonymously. Then the moderator collects the ideas and each is voted on by the group.

- The best idea is chosen



3. Group Passing Technique:

- Each person in a circular group writes down one idea, and then passes the piece of paper to the next person in a clockwise direction, who adds some thoughts.
- This continues until everybody gets his or her original piece of paper back. By this time, participants will have examined each idea in detail



4. Individual Brainstorming:

- It typically includes such techniques as free writing, free speaking, word association, and drawing a mind map. Individual brainstorming is a useful method in creative writing

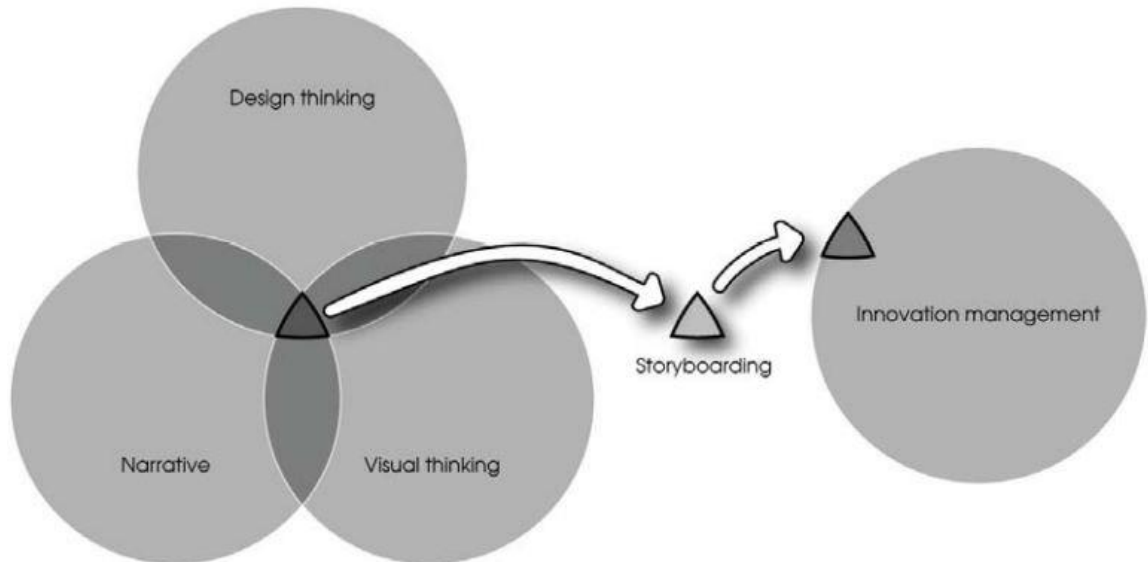
5. Question Brainstorming:

- This process involves brainstorming the questions, rather than trying to come up with immediate answers and short-term solutions
- Six Key Questions
 - ❖ Who?
 - ❖ What?
 - ❖ When?
 - ❖ Where?
 - ❖ How?
 - ❖ Why?

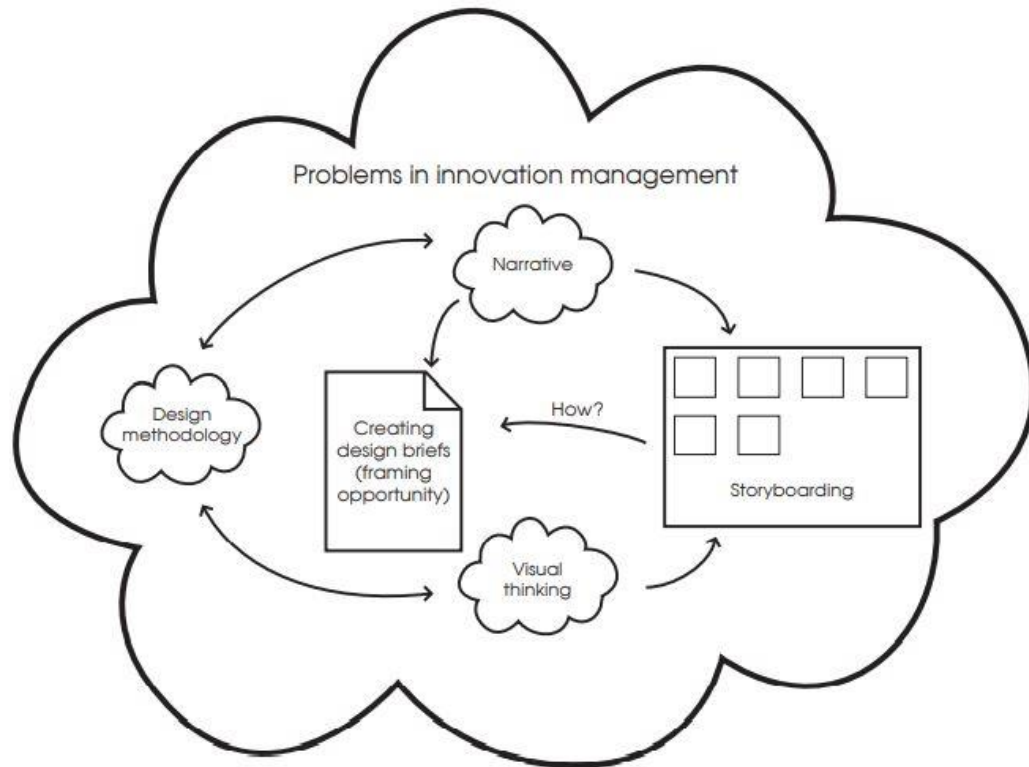
Story Board Telling:

Introduction:

- **Stories are a fundamental part of being human. In turn just about everything experience into a story, to remember it better and tell it to others.**
- A story captures attention, provides clarity, and inspires teams and stakeholders to act
- Design thinking is closely related to visual thinking which is important in **innovation** and design.



- The final products of such **thinking, visualizations,** are used to **communicate** and manage the **process of innovation.**



- Design thinking and visual thinking is related to making innovations. Many Types of inference visualizations are existing in design thinking literature like.
 - Scripts
 - Drawings
 - Screen shots
 - **Storyboards**
 - Flipbooks
 - Animatics
 - Puppets
 - Computer animations
 - Special effects
 - Interactive software
- **Storyboard creation can be an alternative way of teaching visual problem solving**
- **Expressing a concept or idea showing action, or thinking a problem through from start to finish can be done through storyboards**
- **The very name ‘storyboard’ implies the ability to tell a story or communicate an idea**
- *In a business context, storyboards are an essential tool to visualize an experience from start to finish and communicate your ideas.*

Definition:

A **storyboard** communicates a story through images displayed in a sequence of panels that chronologically maps the story's main events.







Or

A storyboard is a sequence of single images, each of which represents a distinct event or narrative element.

- It is a visual representation of the script and illustrates the interaction between the user and the machine.
- Storyboarding is the process of creating a visual representation of a story through static frames
- These can for example be drawings, images, cartoons, or photos. Text is used to add context, e.g., speech, thoughts, or background information

Components of a Storyboard:

- There are always 3 common storyboard elements, regardless of form: a specific **scenario, visuals, and corresponding captions.**

PERSONA:	USER STORY/SCENARIO:	
		
<hr/> <hr/> <hr/>	<hr/> <hr/> <hr/>	<hr/> <hr/> <hr/>
		
<hr/> <hr/> <hr/>	<hr/> <hr/> <hr/>	<hr/> <hr/> <hr/>

1. Scenario:

- ❖ Storyboards are based on a scenario or a user story
- ❖ The person or role that corresponds to that scenario is clearly specified at the top of the storyboard
- ❖ A short text description of the scenario is also included.
- ❖ The description of the scenario or story is clear enough that a team member or stakeholder could understand what is depicted before looking at the visuals

2. Visuals:

- ❖ Each step in the scenario is represented visually in a sequence
- ❖ The steps can be sketches, illustrations, or photos. Depending on the purpose of the storyboard and on its audience, these images can be quick, low-fidelity drawings or elaborate, high-fidelity artifacts
- ❖ Images include details relevant to the story, such as what the user's environment looks like, speech bubbles with quotes from the user, or a sketch of the screen that the user is interacting with

3. Captions:

- ❖ Each visual has a corresponding caption
- ❖ The caption describes the user's actions, environment, emotional state, device, and so on.
- ❖ Because the image is the primary content in a storyboard, captions are concise and don't typically exceed two bullet points.

STORYBOARD

PERSONA:

CORPORATE BUYER,
JAMES

SCENARIO:

REPLENISH OFFICE SUPPLIES



- MAKES NOTE OF SUPPLIES NEEDED ON CLIPBOARD
- PHYSICAL INVENTORY



- SELECTS ITEMS FROM FAVORITES LIST
- USES DESKTOP ↓ SUPPLY LIST AS TOOL



- RECEIVES SHIPMENT WINDOW W/ORDER SUBMISSION
- SETS PLAN FOR RESTOCK

Visuals

Captions

Uses of Storyboards:

- stimulating creative thinking
- planning a project
- movie making
- collecting ideas
- exploring an organization
- communicating a concept
- illustrating a briefing
- understanding the big picture