

# Strategic Management and the Creation of Technology-Based Firms

Topic 1. The process of business creation. From idea to opportunity.



**Ana María Serrano Bedia**  
**Gema García Piqueres**  
**Marta Pérez Pérez**

Business Administration Department

Published under License:  
[Creative Commons BY-NC-SA 4.0](https://creativecommons.org/licenses/by-nc-sa/4.0/)

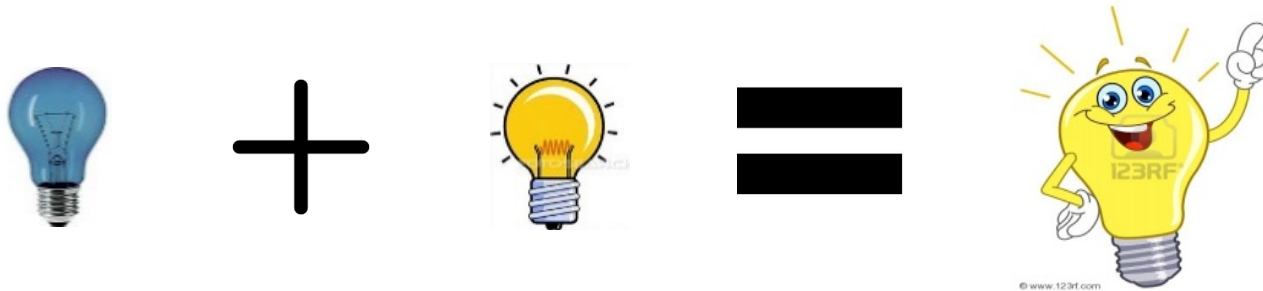
## Table of contents

- 1. Introduction: What is creativity?**
- 2. Psychological blocks and barriers to creativity.**
- 3. The stages of the creative process.**
- 4. Creativity techniques.**

# WHAT IS CREATIVITY?

## 1. Introduction: creativity and innovation

- **Creativity:** the ability to create by making connections between seemingly unrelated things in order to generate new ideas.



- **Relationship between creativity and innovation:** innovation is the phase that follows creativity, in other words putting ideas into practice. It is taking an idea from concept to reality, analysing the creation of value.

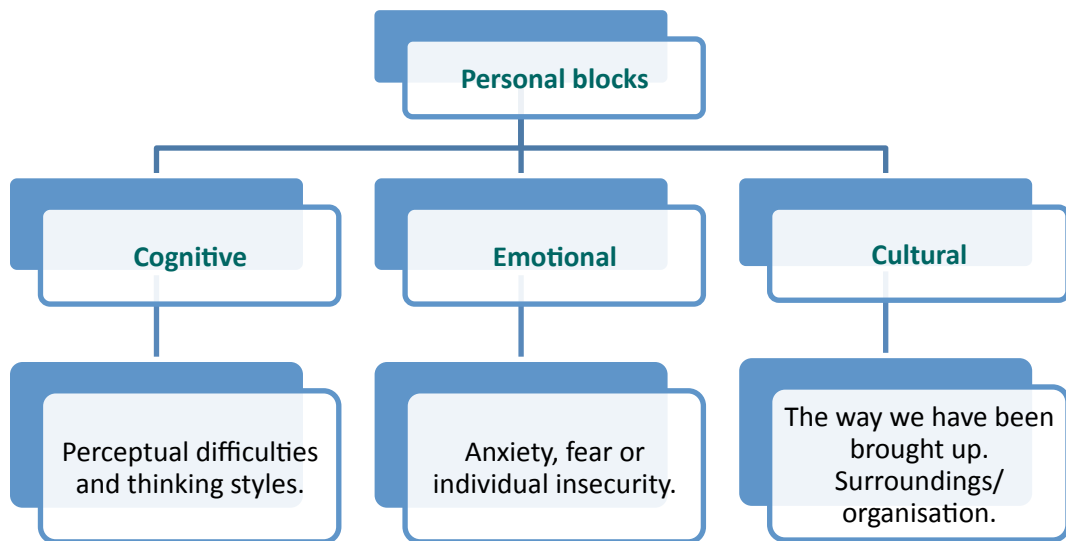
## In order to be creative...



## Don't kill creativity, bad ideas don't exist!!!

- Madame Curie had a “bad” idea that turned out to be a radioactive chemical element (radiotherapy).
- Richard Drew had a “bad” idea that turned out to be sticky tape.
- Fleming accidentally discovered penicillin...
- *«A creative idea is just an idea until something is done with it. You must do something or you are not creative» (Glen Hoffherr).*

## 2. Psychological blocks and barriers to creativity



Perceptual  
self-limitations

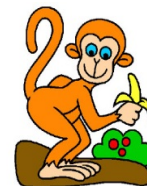
Habits  
and  
customs



Prevailing theories

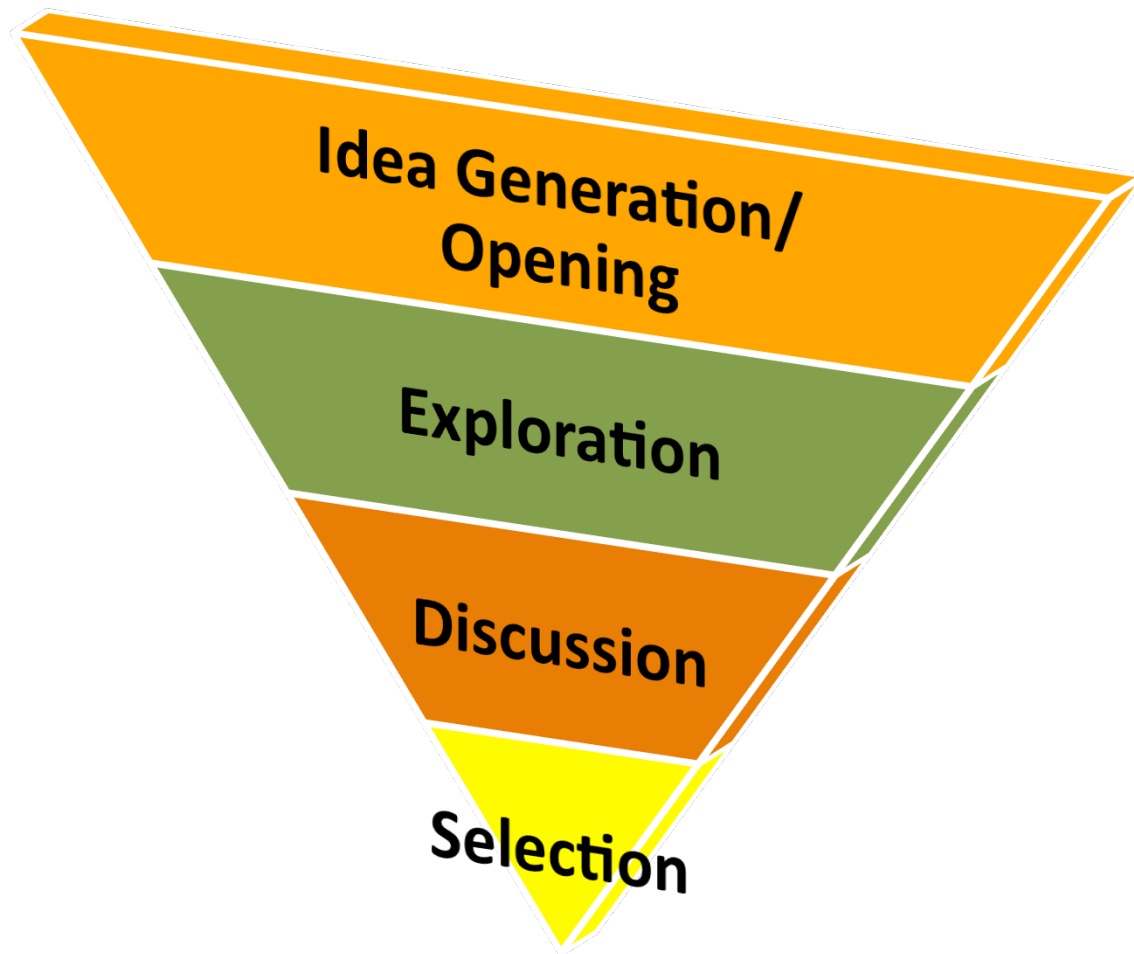
The Herod syndrome

Fear of breaking group norms/  
making mistakes



The first step to overcoming these barriers is to acknowledge them, then they must be identified and finally measures must be adopted to remove them.

## 3. The stages of the creative process





## 4. Creativity techniques

- The use of creativity techniques helps to organise our creative thought and they direct the dynamics of idea generation.
- They help us to reflect on the problem and apply a general procedure with the aim of reaching a goal.
- Wide variety of individual/group techniques for each stage of the creative process.

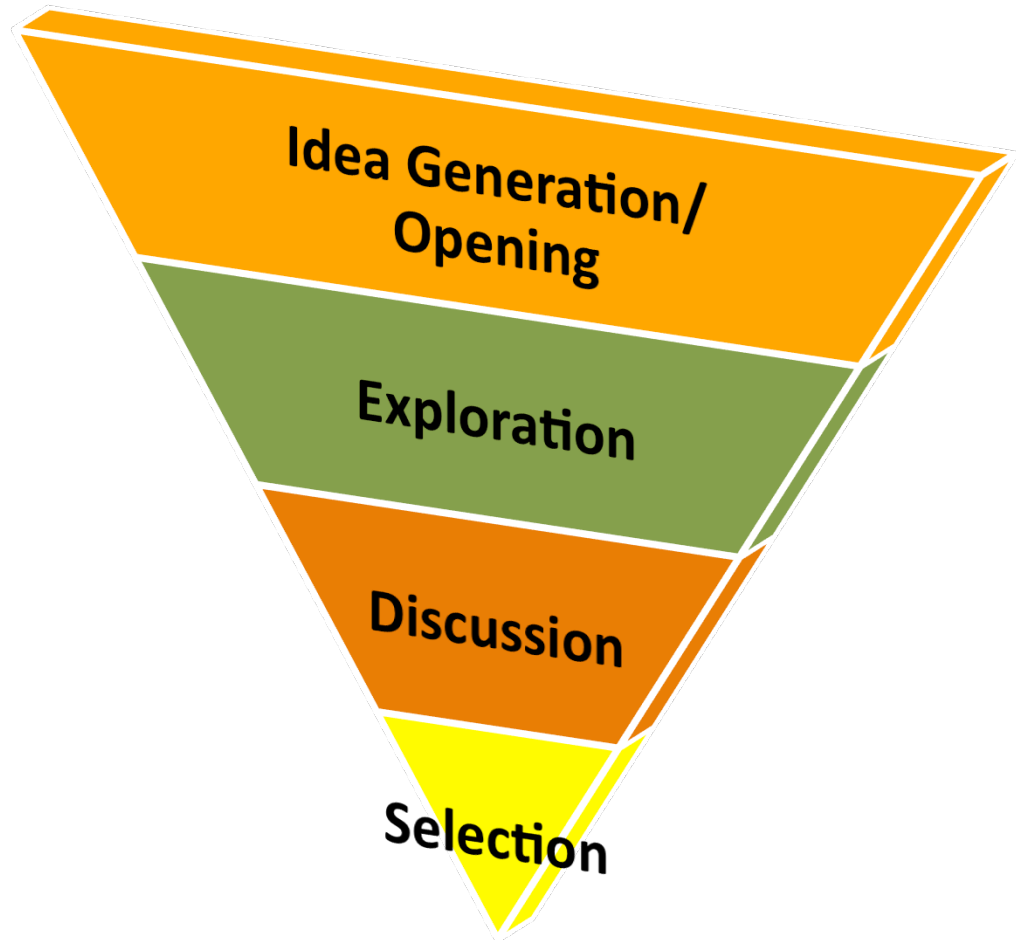
## Stages of the creative process

Brainstorming, random words, fishbone diagram, list of attributes, law of opposites, analogy...

Affinity maps, atomisation...

Arguing points of view, the 5 whys.

The Hundred Euro Test, 20/20 vision, NUF test...



## **4. Creativity techniques**

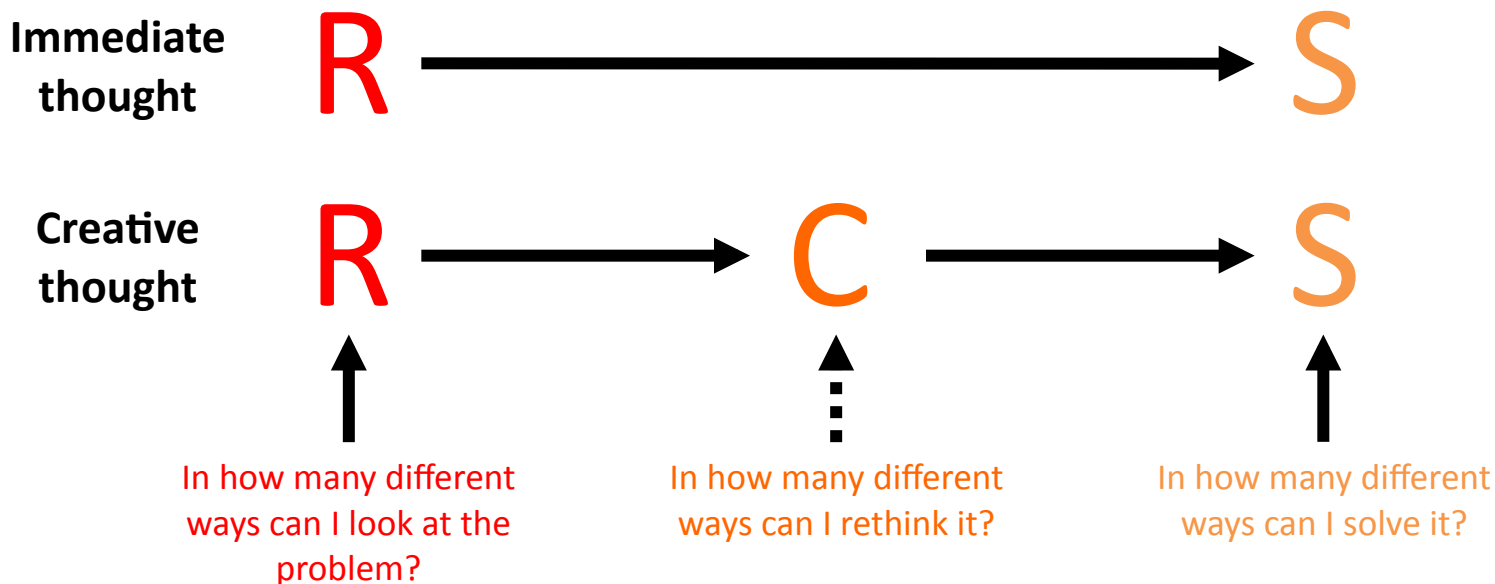
# **TECHNIQUES FOR IDEA GENERATION**

## 4. Creativity techniques: idea generation

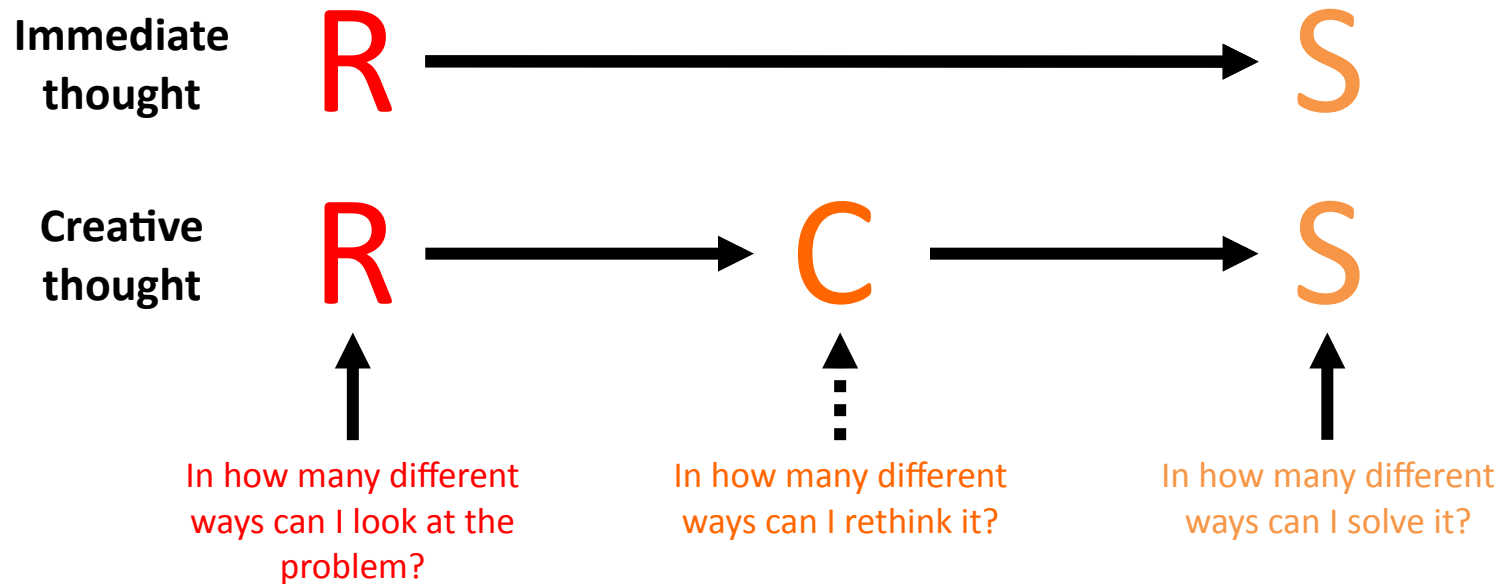
### **BRAINSTORMING Technique:**

- **Main objective:** this is a group technique for looking for solutions based on the ideas suggested spontaneously by its members.
- **Method:**
  - The group gets together in a room.
  - The problem is briefly explained.
  - Each idea is written on a *post-it*.
  - 20 to 40 minutes are given for this process.
  - The chairperson collects the ideas and, later, they are grouped and assessed.
  - The ideas are neither criticised nor evaluated (that is done later).
  - Free, spontaneous expression is encouraged, the more extravagant the better.
  - Lots of ideas are needed. The more ideas generated, the more likely that one of them will be good.

## 4. Creativity techniques: idea generation



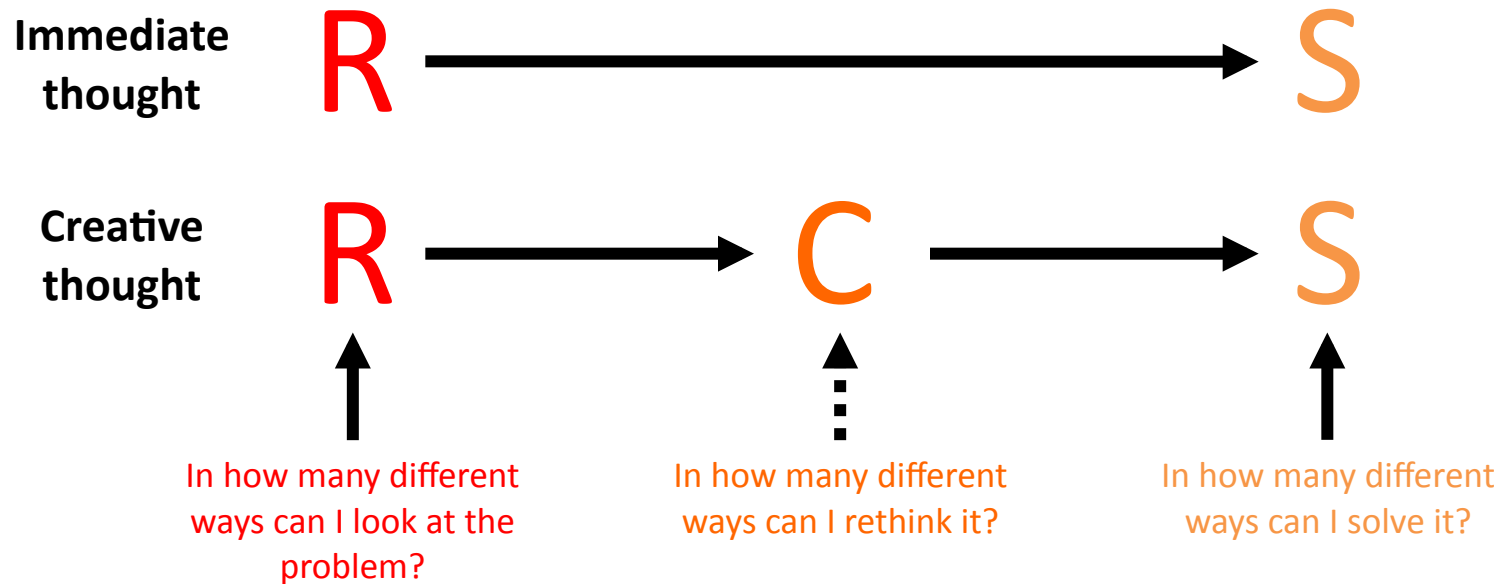
## 4. Creativity techniques: idea generation



*E.g.: there are no parking spots at the university.*

*Create more parking spots.*

## 4. Creativity techniques: idea generation



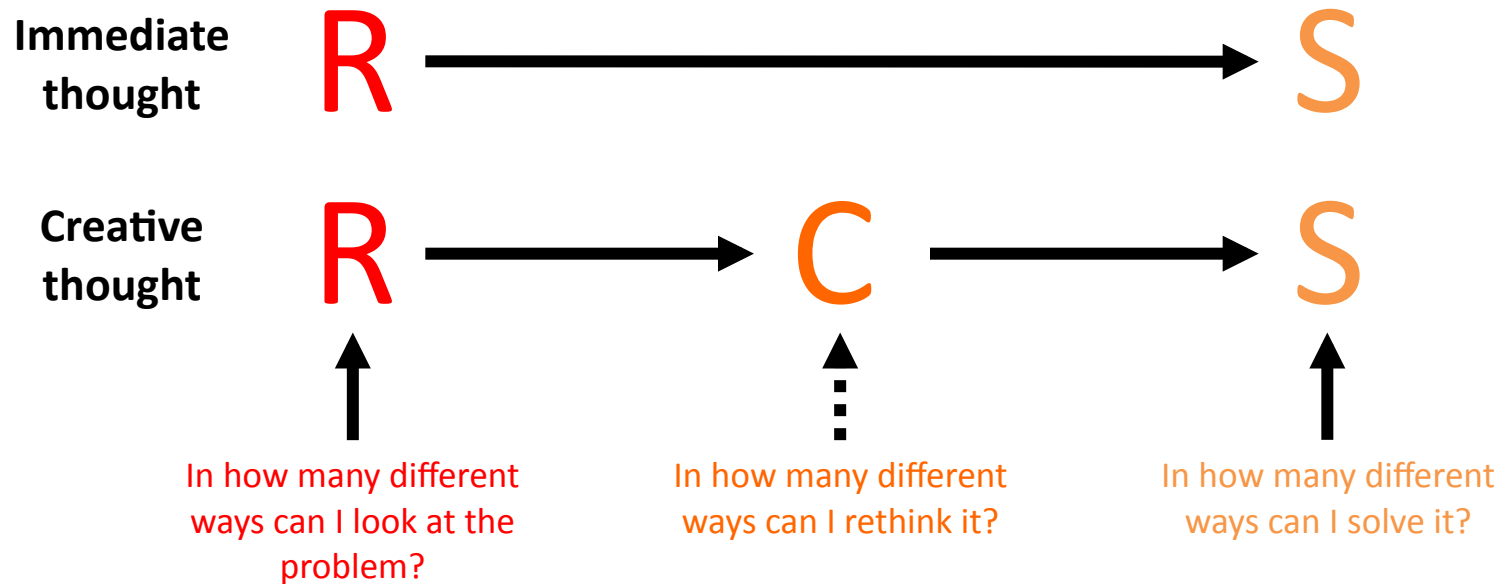
*E.g.: there are no parking spots at the university.*

*Create more parking spots.*

*It is true that... or...*

- There are too many cars.
- There are too many workers.
- There are too many students.
- Everyone arrives at the same time.

## 4. Creativity techniques: idea generation



*E.g.: there are no parking spots at the university.*

*Create more parking spots.*

*It is true that... either...*

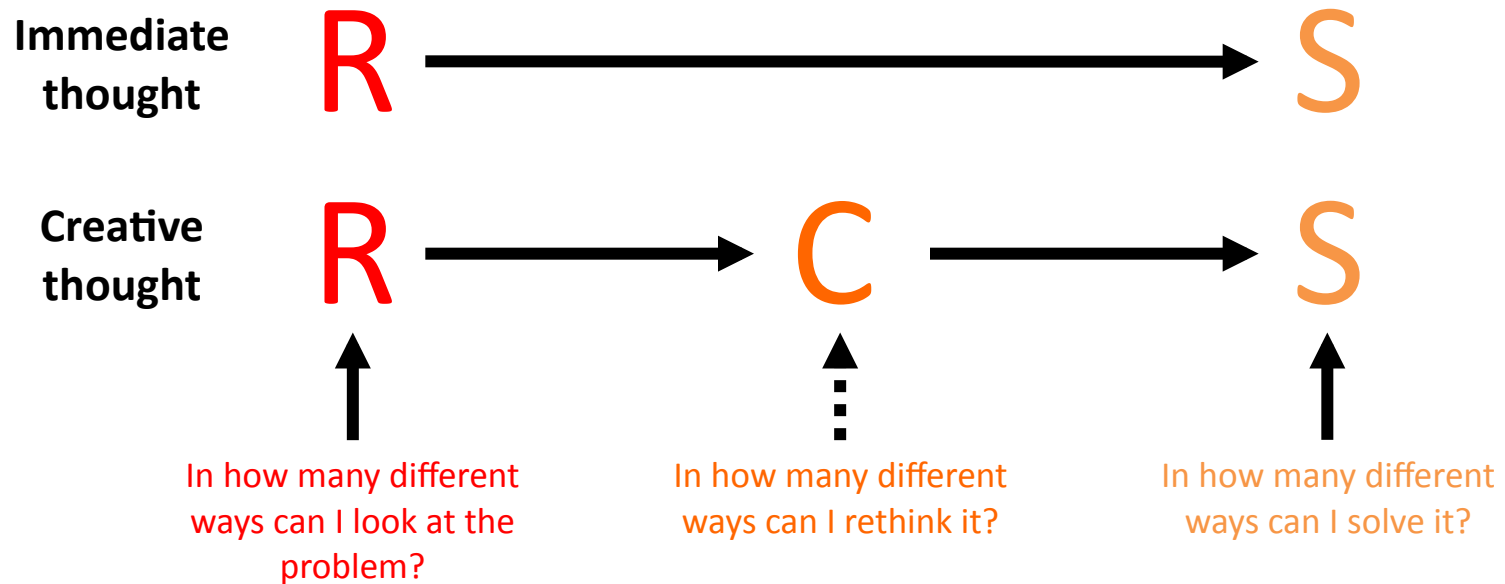
- There are too many cars.
- There are too many workers.
- There are too many students.
- Everyone arrives at the same time.

*It is necessary to...*

- Reduce cars.
- Reduce workers.
- Reduce students.
- Make sure that not everyone arrives at the same time.



## 4. Creativity techniques: idea generation



*E.g.: there are no parking spots at the university.*

*It is true that... either...*

- There are too many cars.
- There are too many workers.
- There are too many students.
- Everyone arrives at the same time.

*It is necessary to...*

- Reduce cars.
- Reduce workers.
- Reduce students.
- Make sure that not everyone arrives at the same time.

*Create more parking spots.*

- Smaller cars.
- Encourage using motorbikes.
- Free buses.
- Reward vehicles with more occupants.
- Teleworking for certain posts.
- Cars that don't park (like taxis).
- Virtual classes.

## 4. Creativity techniques: idea generation

### **SCAMPER:**

- It is a creativity technique or a technique for developing creative ideas.
- Basically it is a checklist, where new ideas are generated by performing actions on an existing idea.
- In order to do this, you must identify the element (product, service or process) that you want to improve.
- Ask the Scamper questions about your element and see what new ideas emerge.

## 4. Creativity techniques: idea generation

**S** ubstitute.

**C** ombine.

**A** dapt.

**M** agnify.

**P** ut to other uses.

**E** liminate.

**R** earrange.

---

**SCAMPER**

## 4. Creativity techniques: idea generation

### **Random stimulation, free association and forced connections:**

- An initial problem/concept is associated with others, generally in blocks of two words.
- This is carried out by writing a list of concepts, images, objects or any other thing chosen randomly to then make a connection with the problem in order to deal with it from another perspective and in a less conventional manner.
- It is normally used to improve existing products or services.



## 4. Creativity techniques: idea generation

### METHOD 6.3.5:

- **Main objective:** This is a group-structured brainwriting idea generation technique, in which ideas are written down.
- The method's name represents the fact that six people sit around a table and have to write down three ideas to solve a problem in five minutes each time.
- **Steps:**
  1. 6 people sit around a table and the chairperson explains a problem.
  2. Each participant writes down three possible solutions to the problem.
  3. After five minutes, the participants pass their worksheets to the person sitting next to them.
  4. Each participant contributes to or develops the ideas that they receive from their colleague.
  5. The process continues, with rounds lasting five minutes, until the participants receive their original worksheets.
  6. The chairperson collects the ideas and then they are grouped and assessed.

## METHOD 6.3.5

### Main use of the technique:

- Effective time management is necessary (approx. 30 min.).
- The technique is recommended for relatively well-structured problems, like technical problems.
- People who are not used to the casual atmosphere of a brainstorming session will feel more comfortable with method 6.3.5.
- Certain participants may use humour or have crazy ideas, which is not inconsistent with the technique.

# EXPLORATION TECHNIQUES

## Creativity techniques: exploration

### AFFNITY MAPS:

- Technique for identifying hidden patterns of thought.
- There must be a series of ideas generated in a previous phase.
- A whiteboard or similar object is required so that the team members can classify the ideas “according to the similarity of their characteristics”, but without trying to give them a title.
- Once the contents have been classified, the group must suggest categories that represent the columns that have been created. Once decided by consensus, the name of the category is written at the top of each column.
- This enables identifying the most common ideas.



## Creativity techniques: exploration

### ATOMISATION:

- The objective of this technique is to further explore the ideas generated.
- It starts by asking the members to break the ideas up into their main components.
- For each element generated, the division process is repeated, asking the participants, “What is put together to create this?” thus forming a pyramid of components.

# DISCUSSION TECHNIQUES

## Creativity techniques: discussion

### THE FIVE WHYS:

- The aim is to discover a problem's root cause.
- **It is a game structured into phases with linked questions:**

1. Why does the problem exist?
2. Why is nº 1 true?
3. Why is nº 2 true?
4. Why is nº 3 true?
5. Why is nº 4 true?



- Finally the common points and differences identified by the group must be debated.




## Creativity techniques: discussion

### SIX HATS:

- **Objective:** To analyse a problem, idea or proposal from different perspectives.
- 6 basic colours are established that symbolise 6 different directions of thought. Each participant puts a coloured hat on and must come up with ideas about the matter being analysed, associating their ideas with the type of thought represented by the hat.
- The six hat method serves to analyse complex problems from different points of view by taking it in turns.




## Creativity techniques: discussion

### SIX HATS

	<p>White is neutral and objective. It is concerned with objective facts and figures.</p>	<p>Presents information and real and provable data that is useful to the matter being discussed.</p> <p>What do we need in order to carry the idea out? Where? Who? It is a fact or a belief? Is there any data or information to prove it? Do we know or do we need to find out?</p>
	<p>Red suggests rage, anger and emotions. It is concerned with the emotional perspective.</p>	<p>Raises emotions and instinct. Spontaneous reaction.</p> <p>Intuition, impressions... What feelings does the idea conjure up? Joy? Fear? Uncertainty? Scepticism?</p>
	<p>Black is sad and negative. It is concerned with negative aspects, why something can not be done.</p>	<p>Identifies all possible drawbacks, risks, negative issues... Critical thought, looks for problems and conflicts. Why don't things work? What are the risks?</p>

## Creativity techniques: discussion

### SIX HATS

	<p>Yellow is joyful and positive. The yellow hat is optimistic and represents hope and positive thought.</p>	<p>Looks at all the possible benefits and advantages of the matter.</p> <p>Constructive thought. Optimism. At best... Everything will be fine because...</p>
	<p>Green signifies grass, vegetation and growth. It represents creativity and new ideas.</p>	<p>Looks for alternatives with new ways of thinking, to see if there are any other possibilities or better ideas.</p> <p>New ideas, concepts, perceptions... New alternatives. Different routes and options.</p>
	<p>Blue is cold and also the colour of the sky (it is above everything). It is responsible for controlling and organising the thinking process.</p>	<p>This is the group's guide, who summarises the situation, says what has been achieved and where they should be heading...</p>

## Creativity techniques: discussion

### THE PROPOSAL:

- The objective of this game is to analyse an idea from different points of view. Each group is divided into roles: entrepreneurial team (fulfilling three profiles: commercial, technical and financial), and two other people are involved from other groups: a client and an external investor.
- Together they will define and agree on one/two products or services. 10 minutes are allowed for formulating each one of the proposals that will be presented to the rest of the attendants. Writing, drawing and rehearsing is permitted, each team deciding how to create it. The members of the entrepreneurial team will be responsible for presenting the proposal(s) orally in a maximum of 3 minutes, and the clients and investors of the rest of groups can ask a maximum of 2-3 questions about each idea.

# SELECTION TECHNIQUES



## Creativity techniques: selection

### NUF TEST:

- The goal is to assess ideas bearing in mind to what extent they are **New**, **Useful** and **Feasible**.
  - New: Has the idea been tried before? Is it significantly different from previous approaches? A new idea attracts attention and improves the possibility of innovation.
  - Useful: Does the idea solve a problem without generating others?
  - Feasible: Can it be carried out? A new and useful idea has to be weighed up to assess the resources and efforts that its implementation would entail.
- For each element, each team assesses each criterion separately and then adds the three scores together. The team writes down the scores obtained for each element and reports them to be counted and debated amongst all participants.

## Creativity techniques: selection

### THE HUNDRED EURO TEST:

- Establishes priorities by assigning a relative value to a list of elements and spending together an imaginary one hundred euro note.
- By using the concept of cash, points are allocated, generating a point classification system.
- It is mainly used in the computer industry.

Element / Topic / Matter	€	Why?
Alarm clock	7.50	Sometimes the only one available.
Telephone	55	Contacts emergency department.
SMS	8.50	Help in emergencies.
Camera	4.25	Documentation for insurance.
Voice recorder	24.75	Captures catastrophe interviews.

## Creativity techniques: selection

### IMPACT / EFFORT MATRIX:

- **This enables assessing ideas according to two parameters:**
  - Their potential impact: the extent to which an idea is novel or even revolutionary, or its usefulness in leading to the generation of other ideas.
  - Their applicability: the extent to which an idea is likely to be put into practice.

	Low potentiality	High potentiality
High applicability	<b>Immediate.</b> Highly applicable ideas with low potential.	<b>“Star” ideas.</b> Easy to apply with high potential.
Low applicability	<b>To be rejected.</b> Ideas with are difficult to apply and have little potential.	<b>Requires work.</b> Highly promising ideas which are difficult to apply.

## Reference list

- De Bono, E. & Castillo, O. (1994): «*El pensamiento creativo*». Ed. Paidós.
- Demory, B. (1997): «*Técnicas de creatividad*». Vol. 7. Ed. Granica, S.A.
- Gray, D.; Brown, S. & Macanuso, J. (2010): «*Gamestorming: a playbook for innovators, rulebreakers, and changemakers*». O'Reilly Media, Inc.
- Gray, D.; Brown, S.; Macanuso, J. & Benítez, B. (2012): «*Gamestorming: 83 juegos para innovadores, inconformistas y generadores del cambio*». Deusto.