3.3 Copying with Uncertainty Ambiguity and Risk

Duration:14 hours

Trainer:

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Entrecomp Definition

- Make decisions dealing with uncertainty, ambiguity and risk
  - Make decisions when the result of that decision is uncertain, when the information available is partial or ambiguous, or when there is a risk of unintended outcomes
  - Within the value-creating process, include structured ways of testing ideas and prototypes from the early stages, to reduce risks of failing
  - Handle fast-moving situations promptly and flexibly

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Learning Outcomes

27. EXPLAIN EFFECTUATION THEORY, IDEAL PROBLEM SOLVING METHOD, RISK ANALYSIS TO REDUCE RISKS OF PUPILS QUITTING

28. DEVELOP THE SKILLS OF PUPILS TO IDENTIFY RISKS AND THEIR IMPACT AND FEEL SAFE TO PROPOSE ALTERNATIVE PLANS

29. USE TECHNIQUES(EFFECTUATION THEORY, IDEAL PROBLEM SOLVING METHOD, RISK ANALYSIS) TO GUIDE PUPILS TO BECOME MORE COMMITTED AND RESILIENT

30. DEVELOP PUPILS ABILITY TO PROPOSE ALTERNATIVE SCENARIOS IN ORDER TO HAVE ALTERNATIVE PLAN IN THE CASE SOME PUPILS DROP OF THE TASK/ACTIVITY/PROJECT

31. INSPIRE THE PUPILS TO DEVELOP A POSITIVE ATTITUDE TOWARDS UNCERTAIN SITUATIONS AND PROBLEM SOLVING
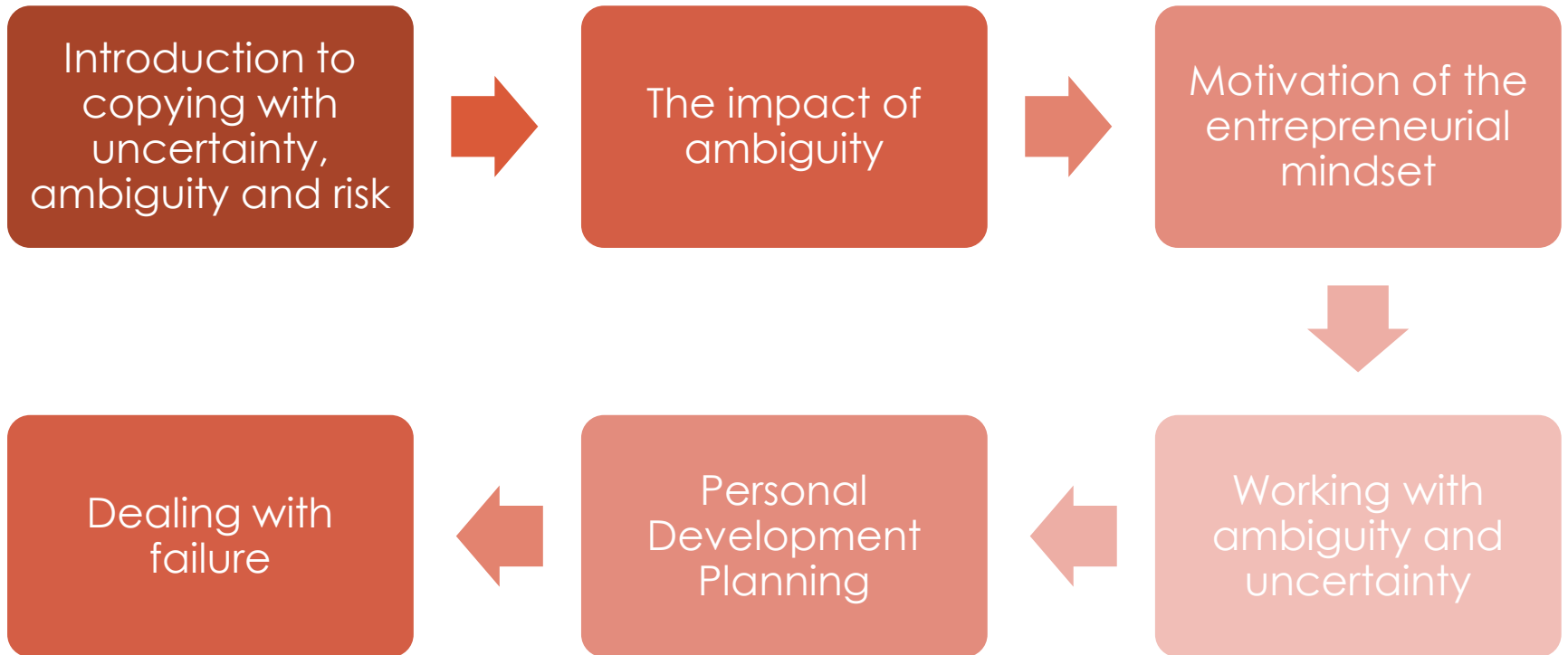
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3.3-Copying with uncertainty ambiguity and risk

REACT SUCCESSFULLY IN SITUATIONS THAT DO NOT HAVE A KNOWN PROCESS OR OUTCOME

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Training roadmap

Introduction to copying with uncertainty, ambiguity and risk → The impact of ambiguity → Motivation of the entrepreneurial mindset

↓

Dealing with failure ← Personal Development Planning ← Working with ambiguity and uncertainty

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Training Rules

- Mobile Phones
- Smoking
- Breaks
- Other

Participation

COFFEE BREAK

Respect

Express your opinion

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Introduction to copying with uncertainty, ambiguity and risk

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Definitions of ambigity, uncertainty and risk

Ambiguity – lack of clarity. An ambiguous situation or problem is one that gives way to multiple interpretations.

► Example: Sarah gave a bath to her dog wearing a pink t-shirt.

► Ambiguity: Is the dog wearing the pink t-shirt?

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Definitions of ambigity, uncertainty and risk

- ▶ **Uncertainty** - the state of being unsure of something; lack of knowledge or lack of confidence in one's knowledge.

- ▶ **Risk -** the probability of being exposed to a loss or damage. This is rather a subjective aspect: the more you value the outcome of a decision, the more risk you put into that decision

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Ambiguity, uncertainty and risk
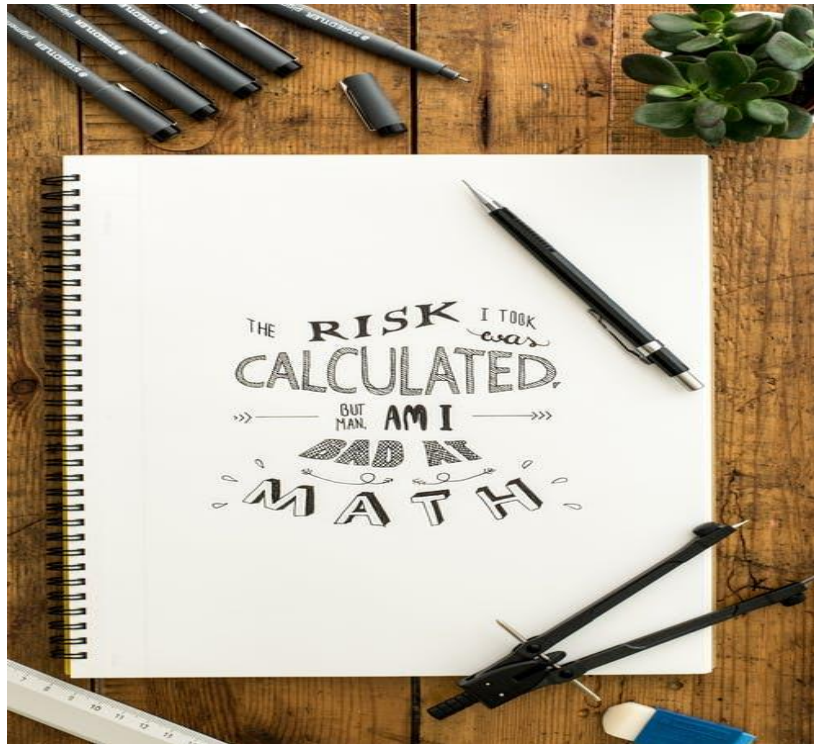
The more we reduce ambiguity and uncertainty in various fields of activity, the more we reduce risks of failure or of loss.

The impact of ambiguity

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Group Discussion

Read the article that was handed out to you

- ▶ What do you think about the concept of ambiguity?
- ▶ How can this be helpful?
- ▶ Can you think of ambiguous situations in your life?
- ▶ How would you present the concept to your pupils/ under which circumstances?

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Comparing Risk and Uncertainty

▶ **Risk** is simpler and easier to manage, especially if proper measures are observed. **Uncertainty**, as commonly known, is about not knowing future events.

▶ A **risk** is something that can be measured and quantified that enables the taker to protect himself from it. **Uncertainty**, on the other hand, does not allow such a thing since no one can exactly foretell future events - *Frank Knight*

▶ A **risk** may be taken or not while **uncertainty** really happens and is a period that must be faced by business owners and people in the financial world.

▶ Taking a **risk** may result in either a gain or a loss because the probable outcomes are known while **uncertainty** comes with unknown probabilities.

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Example of risk vs uncertainty

Let's say a biology teacher puts two different plants in two pots and labels them A and B. Now, she calls a student and asks her which she thinks will most likely survive. What to your expect as an answer? Why?

The next day she changes her mind and tells her what she will do to plant A, which include putting it under the sun for several hours a day every day, watering it two times a day, and weeding it every other day. On the other hand, she says he will not do any of these things to the other plant but she will give it organic fertilizer to help it grow. Then she asks her which is more likely to survive. What to your expect as an answer? Why?

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Give us your example

A travel agent gives you two options for your school trip. A and B. For option A they say that you and the pupils are required to have a passport and bring warm clothes. For option B you don't have to do any preparation.

Prepare two examples :

1 that shows uncertainty and 1 risk taking!

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The importance of developing the ability to deal with ambiguity, uncertainty and risk

The impact of ambiguity

▶ Ambiguity and uncertainty can arise in an innumerable instances of situations – in life style, jobs etc. These aspects psychological distress: people will feel uneasy, challenged, annxious, which results in states of doubt and confusion. Both ambiguity and uncertainty are interpreted as threats, as great problems, because we want stability. Studies have shown that ambiguous, uncertain situations trigger a response in the same brain region which is activated by experiencing fear.

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Motivation of the entrepreneurial mindset

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Motivation of the entrepreneurial mindset

Dealing with ambiguity and the uncertainty that it generates is a significant today's challenge and should be a top priority. For an entrepreneur, every day brings about something new, so a good entrepreneurial mind will be adaptable and flexible. The entrepreneurial mindset should:

▶ Make decisions when the information they have is partial or ambiguous, or when there is a risk of unwanted outcomes

▶ Use effective ways of testing ideas, to diminish risks of failing

▶ Deal with dynamic situations promptly and flexibly, adapting to change, changing strategies when necessary.

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Effectuation Theory

▶ A logic of thinking, discovered through scientific research, used by expert entrepreneurs to build successful ventures.

effectuation **IS**		effectuation **IS NOT**
A thinking framework	⋯⋮⋯	a system to tell you what to do
a set of heuristics	⋯⋮⋯	an algorithm
doing the do-able	⋯⋮⋯	"not planning"
how to get the sellable products and services established	⋯⋮⋯	a way to launch an entire business

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Effectuation

▶ Study the handout about effectuation

▶ Consider a project that you would like to develop for your classroom.

▶ Analyze it according to the principles of Effectuation

▶ Do you still think that you should proceed with your project ?

▶ What would you change?

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Take a look at this

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Working with ambiguity and uncertainty

Individual Exercise

▶ How well do you handle ambiguity ?

▶ https://www.thecut.com/2015/12/this-quiz-shows-how-well-you-handle-uncertainty.html

Present us with an ambiguous situation that you have managed and let us know how you did it?

Was it ambiguous till the end ?

Is it still ?

Was there a successful outcome?

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Ways to deal with ambiguity on a personal level

▶ Develop your problem-solving skills, using certain methods, such as the IDEAL method.

IDEAL Problem Solving Method

1) Identify

2) Define

3) Explore

4) Action

5) Learn

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Managing ambiguity by asking the right clarifying questions.

1) Identify the Problem

▶ What is the problem?

2) Define Your Goals

▶ -What do you want to achieve?

3) Explore Possible Solutions

▶ What are several possible solutions?

▶ Which is the best solution?

▶ Is it safe?

▶ How might people feel about it?

▶ Is it fair?

▶ To what extent will it work?

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Managing ambiguity by asking the right clarifying questions.

4) Action - Choose and Use a Solution

5) Learn from your actions

▶ Does it have positive effects? (if not, then go through process again)

▶ What will you do the next time the situation reappears?

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Unknown Unknowns

- Ben Newling, Physics Professor, finds ways to get students invested in the outcomes as he plans his classes filled with demonstrations that connect physics to the real world. He wants students to recognize that the universe around us works in an amazingly wonderful way, and that making sense of large chunks of it is entirely possible by utilizing the right basic tools.

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Importance of risk, failure and retry

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Classification of Risks

	KNOWN (CERTAIN)	NOT KNOWN (UNCERTAIN)
KNOWNS (IDENTIFIED)	Known known (identified knowledge) - Things we know - We know we know them.	Known unknown (identified risk) - Things we know that we don't know. - We can identify the risk, and estimate a cost for investigation & discovery
UNKNOWNS (UNIDENTIFIED)	Unknown known (untapped knowledge) - Things we know but don't realise we know them; tacit knowledge that we take for granted. - This becomes a problem if we fail to communicate them to people who don't know, but we assume they know.	Unknown unknown (unidentified risk) - Things we don't know that we don't know. - This is the quadrant most likely to make plans fail.

Risk Analysis – VISUALISATION PROCESS

P	5					
R	4					
O						
B	3					
A	2					
B						
I	1					
L		1	2	3	4	5
I	IMPACT					
T						
Y						

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Group Exercise

▶ You are going on a two day field trip with your students and other members of the staff .

▶ What are the risks – Classify and analyze them

▶ How are you going to deal with those

▶ Present to the classroom

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Individual Exercise

Imagine you are preparing a CV but instead of accomplishment you fill it with failures?

▶ On which occasions did this failures take place?

▶ How did you deal with those?

▶ In which successes have these failures lead you ?

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7 ways to fail better

- Were you trying something new?
- Were you still motivated after the setback?
- Was it the right thing to try at the time?
- Did you ask for feedback?
- Did you use the feedback given?
- Did you reflect on the experience
- What you would do differently?

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Individual Exercise

Go back to your CV of failures and reflect upon the 7 ways to fail better!!!

Are the answers helpful ?

Present a couple of cases to the group !

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Students encouragement

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Group discussion – World Café

- 1) Adjusting the learning context: "Let's try this another way."

- 2) Encourage persistence: "Keep trying. Don't give up!"

- 3) Model self-compassion: "Be kind to yourself when you're confused; it's okay."

- 4) Build positive relationships with students: "I see your strengths, and I believe in you."

- 5) Focus on resilience: "Even though this is tough, you will find your way."

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Why is it important to fail?

Students Who Embrace Short-Term Failure Have a Better Shot at Long-Term Success

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So how do you encourage failure in your classroom?

How (and why) to encourage failure in your classroom

▶ Be careful not to overcorrect

▶ Share a meaningful story

▶ Make fun of yourself and the subject at hand

▶ Learn something from your students

▶ Teach students to be fair to themselves

PROBLEM SOLVING

Problem Solving

▶ Problem solving is the act of defining a problem; determining the cause of the problem; identifying, prioritizing, and selecting alternatives for a solution; and implementing a solution.

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THE FOUR BASIC STEPS OF THE PROBLEM-SOLVING PROCESS

Step	Characteristics
1. Define the problem	•Differentiate fact from opinion •Specify underlying causes •Consult each faction involved for information •State the problem specifically •Identify what standard or expectation is violated •Determine in which process the problem lies •Avoid trying to solve the problem without data

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THE FOUR BASIC STEPS OF THE PROBLEM-SOLVING PROCESS

Step	Characteristics
2. Generate alternative solutions	•Postpone evaluating alternatives initially •Include all involved individuals in the generating of alternatives •Specify alternatives consistent with organizational goals •Specify short- and long-term alternatives •Brainstorm on others' ideas •Seek alternatives that may solve the problem

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THE FOUR BASIC STEPS OF THE PROBLEM-SOLVING PROCESS

Step	Characteristics
3. Evaluate and select an alternative	•Evaluate alternatives relative to a target standard •Evaluate all alternatives without bias •Evaluate alternatives relative to established goals •Evaluate both proven and possible outcomes •State the selected alternative explicitly

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THE FOUR BASIC STEPS OF THE PROBLEM-SOLVING PROCESS

Step	Characteristics
4. Implement and follow up on the solution	•Plan and implement a pilot test of the chosen alternative •Gather feedback from all affected parties •Seek acceptance or consensus by all those affected •Establish ongoing measures and monitoring •Evaluate long-term results based on final solution

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IDEAL Methodology

The "IDEAL" approach of problem solving was introduced by Bransford and Stein in 1984. Let's break it down.

- **I** – Identify the problem

- **D** – Define the cause

- **E** – Explore possible strategies

- **A** – Act

- **L** – Look and Learn

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Identifying the problem

Rather than going with the blame game, try to find what exactly is the problem? The real problem may not be the one that you're facing right now.

For example: The end of the school year approaches and the exams are not scheduled yet. Rather than blaming entirely the school and teachers, try to find what caused that. May be there was not enough support during unpredicted situations (ie. a storm, a lockdown) that caused There's always a cause that leads to a problem, that's the first step.

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Defining the cause

After finding out all the possible reasons, define the problem in one line. What exactly is the problem? Not the situation that you're facing because that can be one of the results of the main cause. Define the cause, in one simple line. Defining the cause can save you from many upcoming problems.

For example, if a student failed to perform to complete a task on time, and the cause is "Weak communication between teacher and student", there more than one problems that can be solved by solving the cause.

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Exploring possible strategies.

Now that you know the cause that formed the problem, again **you have to brainstorm.** Think about all the possible solutions and strategies that can be easily implemented at your school. You should definitely take suggestions from your colleagues/other students, as they have suffered the problem.

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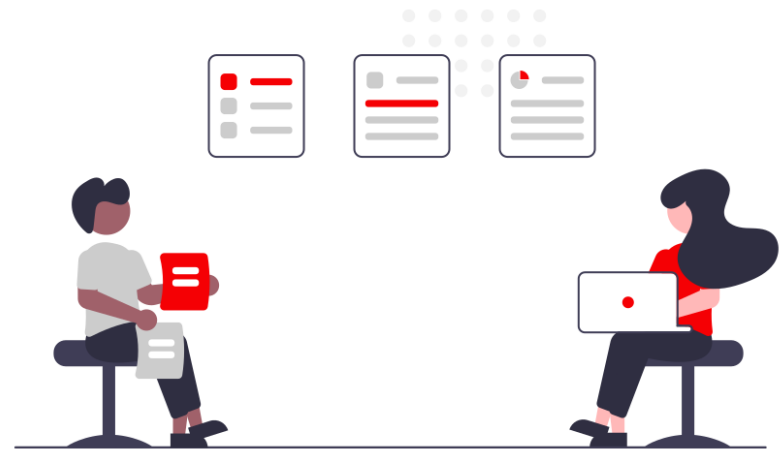
Act

Choose from the list of possible solutions and start acting on it. Here's the fun about not wasting your time and killing productivity. **When you try a new solution quickly, you will see the changes very quickly as well**. Now, if you think a particular solution is not solving the problem, you can **quickly shift to the next solution.** That way, you'll find the needed workflow in a short span.

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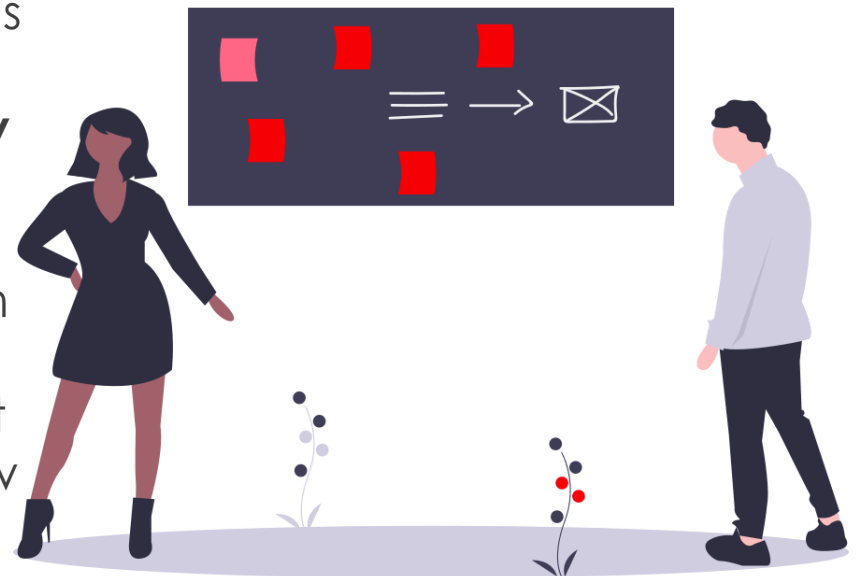
Look back and Learn

There's a great quote from Robert H. Schuller, **"Problems are not stop signs, they are guidelines."** Stopping the problem was not in your hand at some point, but you can stop the upcoming bizarre events by learning a lesson.
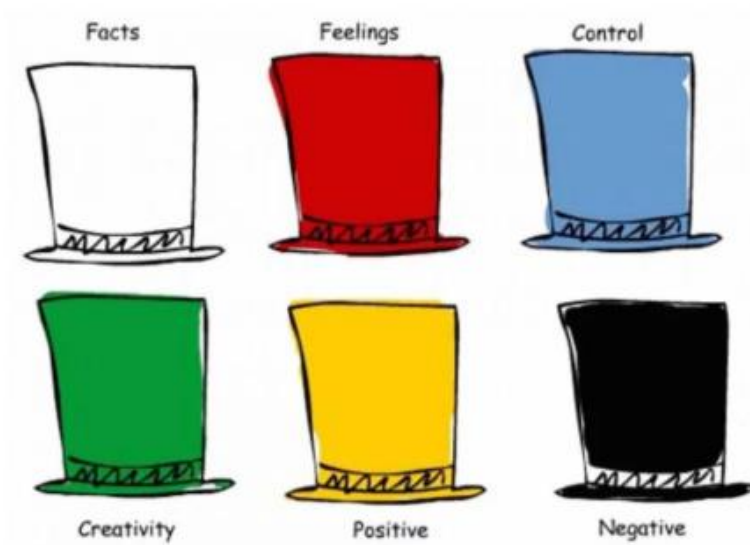
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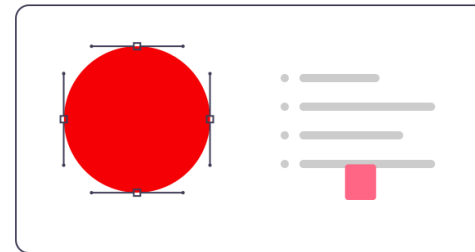
Group Exercise – An exercise for your students

Design an activity that you can implement with your students in order to teach them how they can you the IDEAL method !

Wear the Six Thinking Hats

Facts   Feelings   Control

Creativity   Positive   Negative

1.White Hat: The neutral White Hat works with facts and figures that are known or require solving. Wear this hat when a problem has just emerged. 'The facts, just the facts.'

2.Red Hat: When wearing the emotional and intuitive Red Hat, you can reveal your gut reactions to an idea, express your emotions freely and share fears, likes, dislikes, loves and hates

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Wear the Six Thinking Hats

Facts   Feelings   Control

Creativity   Positive   Negative
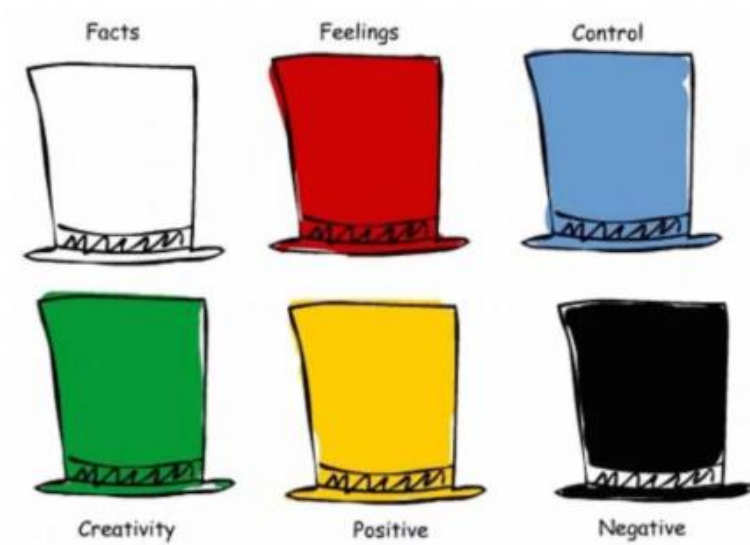
3. Black Hat: Use the cautious Black Hat when you want to get the critical viewpoint. This judgment hat helps decrease the chances of making a poor decision.

4. Yellow Hat: The sunny and positive Yellow Hat helps identify the value and positive sides of ideas and counterbalance the judgmental thinking of Black Hat.

Wear the Six Thinking Hats

| Facts | Feelings | Control |
| Creativity | Positive | Negative |
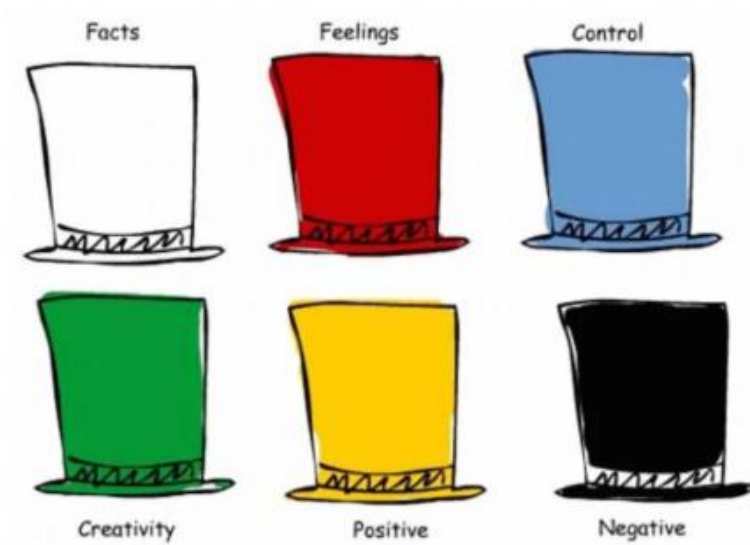
5. Green Hat: is all about creativity, possibilities, alternatives and fresh ideas. It's great opportunity to contribute new concepts and new perceptions. This is a hat each participant should wear.

6. Blue Hat: The organizing Blue Hat manages the thinking process and ensures that the Six Thinking Hats follow the guidelines.

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Group Exercise - Wear your hats and discuss

▶ What do you think about failure ?
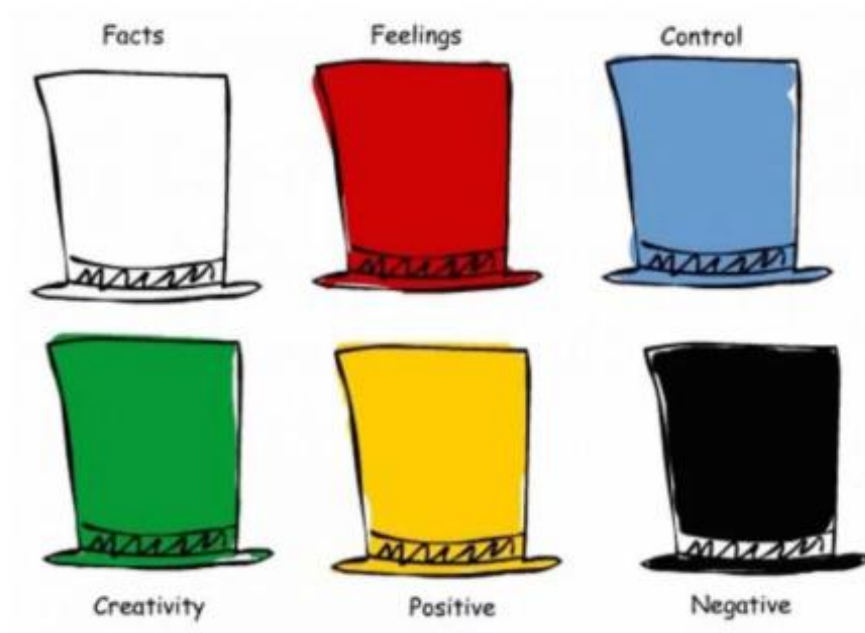
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Techniques for facilitating the students resilience, ambiguity and risk taking

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Techniques for facilitating the students resilience, ambiguity and risk taking

▶ 1. Design iterative work

▶ 2. Use project-based learning

▶ 3. Help students publish their thinking

▶ 4. Connect students with communities

▶ 5. Develop a grading system that suggests it

▶ 6. Recognize it with badges, feedback, and celebration

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Techniques for facilitating the students resilience, ambiguity and risk taking

▶ 7. Consider a no-zero policy

▶ 8. Use Habits of Mind

▶ 9. Help students practice metacognition

▶ 10. Model failure

▶ 11. Study failure

▶ 12. Require students to revise all incomplete work

▶ 13. Grade for 2 or 3 prioritized ideas, not 10

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Techniques for facilitating the students resilience, ambiguity and risk taking

▶ 14. Help them be their own best critic (not worst)

▶ 15. Have a crystal-clear grading policy that is knowledge and experimentation-friendly, rather than closed and risk-averse

▶ 16. Have a short memory as a teacher if it benefits learners

▶ 17. Help students create and use checklists

▶ 18. This one isn't simple, but differentiate or personalize learning

▶ 19. Gamify your classroom by highlighting the process and nuance of student performance

▶ 20. Emphasizing iteration and progress

▶ 21. Every student has their own goals,

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Failure Week Plan

▶ Several Schools around the world are implementing failure weeks

▶ The emphasis is on the value of having a go, rather than playing it safe and perhaps achieving less.

▶ Workshops, assemblies, and activities for the pupils, with parents and tutors joining in with tales of their own failures.

▶ Develop a "Failure week plan for your school"

▶ Present it to the classroom

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Failure Week Plan

- Give your Failure week plan to the team on your left

- Ask them to go through the activities and complete those

- Receive feedback

- Revise

- What did you learn form your "failures"

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Lego castle

▶ Take the legos and build a caste – The best one wins !

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Lego castle

- How did you handle ambiguity ?

- Why did you build this castle?

- Did you enjoy it ?

- What would you do differently?

Games with shifting rules

▶ **Jenga** – Let them play a round or two with normal rules and them ask them to do specific tasks (ie. remove only the blocks from the inside zone

▶ **Uno** – The same (ask them to use only blue cards, or odd numbers, decide in the end that the one with the most cards win)

▶ Give them **Legos** and ask them to build a castle and the best castle wins – Decide with total random rules on the winning castle – Your game ☺

▶ Any more suggestions ?

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What do you think was the most important lesson of this module?

Everything is not planned

Innovation Does not come without ambiguity and some risk taking

We need to fail to learn and succeed

Fail Forward

Key Points

Suggestions for Self-directed learning

N	Title and Reference	Attachment (if applicable)
1	teaching self-determination	https://pdfs.semanticscholar.org/412e/c33e8cc3f79bd48be45120c81639c46061b5.pdf
2	young people develop 'uncertainty competences'	https://www.researchgate.net/publication/291687541_A_pedagogy_for_Uncertain_Times
3	A Classroom Full of Risk Takers	https://www.edutopia.org/article/classroom-full-risk-takers
4	Responsible risk taking students	http://inservice.ascd.org/encouraging-a-culture-of-responsible-risk-taking/
5	Studens dealing with uncertainty	http://www.ascd.org/publications/educational-leadership/oct17/vol75/num02/Inviting-Uncertainty-into-the-Classroom.aspx

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