European Software
Skills Alliance.

ESSA Learning material

DEVELOPER (EQF 6)

PLO 8 - Soft competences:

LEARNING UNIT (LU): 8.2 Get trained and informed

TOPIC:

Creative thinking for professional efficiency – Exercises booklet

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Disclaimer

This learning material has been developed under the Erasmus+ project ESSA (European Software Skills Alliance) which aims to skill, upskill, and reskill individuals into high-demand software roles across the EU.

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About ESSA

The European Software Skills Alliance (ESSA) is a four-year transnational project funded under the EU's Erasmus+ programme. It ensures the skills needs of the rapidly evolving Software sector can be met — today and tomorrow.

ESSA provides current and future software professionals, learning providers and organisations with software needs with the educational and training instruments they need to meet the demand for software skills in Europe.

ESSA will develop a European Software Skills Strategy and learning programmes for Europe. It will address skill mismatches and shortages by analysing the sector in depth and delivering future-proof curricula and mobility solutions; tailored to the European software sector's reality and needs.

Project partners

The ESSA consortium is led by DIGITALEUROPE. It is composed of academic and non-academic partners from the education, training, and software sectors.

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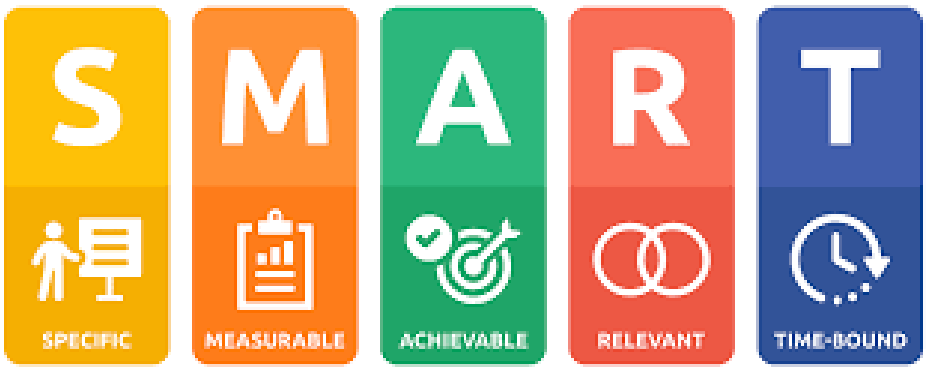
Introduction

Welcome to this module. In this module, you will learn how creativity can be used as a tool for professional efficiency. This is the exercise booklet. There is also a trainee booklet.

Objective

At the end of this module, you will be able to:

- Understand the key concepts of creative thinking
- Identify your own creative levers
- Acquire reference tools and working methods
- Build your action plan



Rules and organisation of the group

- Respect the start and end time of the training
- Respect of the defined schedules for the morning, lunch and afternoon breaks
- Should we address each other informally
- For Visio training; Turn on the camera, mute the microphone and trigger the appropriate emoticon when you want to speak
- Don't cut off when someone is speaking
- Remain benevolent and non-judgmental.
- Apply the principle of confidentiality
- Right to experiment and make mistakes
- Say "stop" to an exercise you don't want to do
- Notify in case of absence
- Wait for breaks to make calls

EXERCISE 1: Definition

In a subgroup, without using your textbook and google, come up with your own definition of "creativity"

EXERCISE 2: The wheel of creativity

In a subgroup, write down the information that you think is likely to fuel your company's creativity with the creative wheel template in order to produce an original idea for this new product.

"The Renova brand offers 3 rolls of coloured toilet paper. They are made of pure fiber and hypoallergenic and come in gift wrapping. »

- Where is the "nugget" or "nuggets" to be transposed
- What good idea does this give you?

COMMERCIAL INFORMATION	PRODUCT INFORMATION	TECHNOLOGICAL INFORMATION
		
Distribution channel: Ex/ Communication strategy Ex/ Promotional offer & commercial animation: Ex/ Events & Occasion contact: Ex/ Purchase Status or Stages of the Buyer's Journey: Ex/	Marketing Trend/Positioning: Ex/ Functionality: Ex/ Architecture: Ex/ Typical product category to merge with: Ex/ Early Market/International: Ex/	Material/ Material 1st: Ex/ Atypical Ingredients (Fashion): Ex/ Technology & Process: Ex/ Transversal Technological Challenge: Ex/ Additive: Ex/

My 5 identified avenues for innovation are:

_____

_____

_____

_____

_____

NEW STRATEGIES	META-PRODUCT INFORMATION	SENSORY INFORMATION
		
Business Model or Strategy: Ex/ Benchmark Company: Ex/ Organizational Change Ex/ Standard & Regulation: Ex/ Alliance or Partnership: Ex/	Packaging: Ex/ Co-branding/Licenses Derivative Products: Ex/ Creator, Designer, Chef, Artist: Ex/ Related Service: Ex/ Global offer / Support or complementary products: Ex/	Visual, Shape, Color, Logo: Ex/ Sound, Noise, Music: Ex/ Touch, Texture: Ex/ Taste, Flavour, Aroma: Ex/ Smell, Fragrance: Ex/

CONSUMER INFORMATION

Target Consumer & Market Segment:
Ex/
Need, Insight, Brake to reduce
Ex/
Universe:
Ex/
Societal issues and trends:
Ex/
Timing, Consumer Situation, Consumer Experience, Usage:
Ex/

My innovation objective :
( ) create value ( ) create variety ( ) reduce costs
( ) marketing
( ) find new outlets
( ) revive the market, consumption ( ) rejuvenate the market, the brand
( ) create brand loyalty ( ) other :
Your idea for a new product?

Select 6 drivers ('moteurs') adapted to the chosen objective/ 35 possible ones and cross-reference the information... to get back on track creatively!

Fill in the form below:

	Moteur 1	Moteur 2	Moteur 3
Moteur 4 :			
Moteur 5 :			
Moteur 6 :			

What idea emerged from cross-referencing the information?

EXERCISE 3: Brainstorming

Case No. 1.
Your marketing and product content teams need to come up with new ideas for product launch messaging.
You have a series of new features that you know will be highly appreciated by users, but you can't seem to find the right words to communicate their importance and benefits.

As a team, find the most impactful message!

Case No. 2.

The management team has tasked you with developing a growth strategy for the upcoming fiscal year, which should focus on expanding your brand's presence in markets where it is already very successful. You know growth is possible, but you're not sure what areas you need to focus on.

Quickly develop a list of growth opportunities. Each member of your team will have their own ideas about growth based on their roles, which can be added to a longer list of strategic possibilities.

Case No. 3.
Your product development team keeps running into the same problem with the new version of your software. Due to the complexity of the project, it is difficult to identify the root cause of this problem.

Getting your entire product team together for a brainstorming session will help you gather different opinions on what may be causing the problem. It is by generating different theories that a consensus can begin to form as to the origin of the problem. From there, you can brainstorm to find solutions that will correct the problem.

EXERCICE 4: Test

The first thing you see in its 4 images will reveal many truths about your personality!

If you've seen a young woman, then you're optimistic and a little impulsive. You could say that you are a happy person.

If you saw an old woman, then you have a lot of life experience. You are prone to critical thinking and look at life's problems from all angles.

- A skull. You are a realist and a cynic. You understand that all the good things in life are fleeting.
- A woman. You have an innate naivety. You often fail to notice threats or problems.

1. A duck: The right hemisphere of your brain dominates the left hemisphere, which means you are a human person.
2. A rabbit. The left hemisphere of your brain is dominant. You are more of a technical mind than benevolent.
3. If you've seen a duck and a rabbit simultaneously, then you're probably a creative personality. You have a powerful imagination and can read between the lines.

Did the cat look like he was climbing the steps? You don't pay attention to details. You're probably a disorganized or naïve person. You believe what you see, and it makes you love life and frees you from cynicism and worry.

Did the cat look like it was coming down the steps? You are either a very attentive individual or you have a great intuition. You pay a lot of attention to detail and carefully consider important issues without relying on luck to help you solve them.

EXERCISE 5: Sensory or intuitive test

The two mutually exclusive choices regarding the cognitive function of perception are these: either we are intuitive (N) or we are sensitive (S).

For each of the following questions, choose the statement that best suits you

QUESTIONNAIRE

Question 1 :

-Am I more interested in the facts of a situation? (S)

-Am I more interested in the possibilities of a situation? (N)

Question 2 :

-Do I tend to pay attention to details? (S)

-I tend to notice the relationships between things? (N)

Question 3 :

-Can I describe myself as a practical, pragmatic and logical person? (S)

-Can I describe myself as imaginative, creative, and idealistic? (N)

Question 4 :

-I'm generally more present-oriented and pay more attention to what's happening in the here and now? (S)

-I'm generally more forward-oriented and think more about what might happen? (N)

Question 5 :

-I don't really trust my intuition and try to prove things to myself or others using logic and facts? (S)

-I trust my intuition more, and can I ignore certain facts to follow my intuition? (N)

Question 6

-I consider myself a person with a lot of common sense and I prefer to be with people who also have a lot of common sense? (S)

-I consider myself a creative person and prefer to be with people who are also creative? (N)

Question 7 :

-Do I respond to what people tell me? (S)

-I try to read between the lines and understand what they mean before answering them? (N)

Question 8 :

-I like to learn by doing, is practical experience the best way for me to learn? (S)

-I like to learn through inspiration and conceptualization? (N)

Question 9 :

-I hate it when someone complicates things and doesn't give details (S)

-I like complex theories and I hate details (N)

Question 10 :

-I give more value to logic and common sense (S)

-I give more value to creativity and imagination (N)

Question 11 :

- I like to think and take all the details into consideration to arrive at my conclusions (S)

-I often come to my conclusions very quickly using my imagination and intuition (N)

Number of S responses: ___

Number of N responses: ___

INTERPRETATION

If the number of "S" answers is greater than the number of "N" answers, then you are someone who uses Sensation much more

If the number of "N" answers is greater than the number of "S" answers, then you are someone who uses Intuition much more

Intuitives, sensitives, how do you gather information?

INTUITION – "N"	SENSATION-"S"
Idealist	Realistic
Future-oriented	Present-oriented
Ease with abstract things	Ease with concrete things
Focuses attention on what could be, on the possibilities, the unknown, and the new	Focuses attention on what is, on the facts, what is certain, known and traditionall
Telescopic Vision: Likes to see the big picture, to consider ideas in a global, general ways	Microscopic Vision: Likes to consider the details of things, understand them accurately
Sees life as something that can be improved, expects more, and desires it to be inspiring	Take life as it is, accept it and want to enjoy it
They prefer imagination to observation	They prefer observation rather than imagination
They are willing to sacrifice the present for the future	They are more reluctant to sacrifice the present moment for the future
They value initiative, enterprise and inspiration	They value fun and recreation

EXERCISE 6: The 6 hats of reflection

The principle of hats is simple: **each hat corresponds to a posture**, which all team members must adopt at the **same time.**

Each assignment begins and ends with the blue hat, a symbol of organization and synthesis.

Exercise:
Your team has put together a small rock orchestra and you are tempted by the project of producing and publishing a record. You decide to use the six-hat technique to check the feasibility of this project during a planning meeting. One of you is appointed to moderate the meeting and chair the debates. He symbolically wears the blue hat and will decide when to switch from one hat to another.

At the end of the exercise, you have studied your idea from different points of view and come to a stronger consensus. You are now able to develop a more realistic and robust plan of action.

Drill down into each position to extract the insights.

Generating new ideas is reminiscent of the structure of the exercise

1/ Blue: we pose the problem2/ White: what I know about the situation – Facts and data3/ Green: brainstorming ideas4/ Yellow: positive evaluation and constructive criticism of each idea5/ Black: identification of risks and disadvantages, weaknesses6/ Red: what feelings does each idea provoke? What do I want to do? What does my intuition?
7/ Blue: synthesize and define an action plan

Start of the session with the **blue** hat: what is the problem? Why are we here? What is the context? What is the purpose of this interview? How will the session take place?

In the **white session,** each participant simply states the facts: what do I know about the situation? What information do I have? What figures do I have? What are the standards/rules/laws in this area? What information is missing? How do I get them? etc.

Then comes the **red sequence** during which each of the protagonists has to express how they feel about the problem without having to justify themselves: what do I feel? What does my intuition tell me? What does this mean to me? What are my beliefs? How does it feel in me? etc.

The **black sequence** follows. Everyone forces themselves to see the glass as half empty: what are the obstacles to each solution? Why won't it work? What are the disadvantages? What is needed for this to succeed that we don't have? What are the obstacles we will encounter? What are the

weaknesses? etc.

Then comes the time to see the glass half full this time and be constructive with the **yellow sequence**: what are the advantages for each solution? What are the benefits? How could we go even further? How do you make this work? etc.

Green hat: make room for imagination and limitless creativity: what ideal solutions, no matter how far-fetched or unrealistic they may be? What are the other possible paths? What if...? What would be truly innovative, disruptive? What other solution can be found to the problem? What are the suggestions for dealing with the brakes mentioned in the black hat? etc. The time allotted to this creative sequence is usually longer than for the others.

Finally, it's time to sort and conclude with the **blue hat**: what to remember from the session? Have we made any progress, or is the situation still unclear? Which solution should you go to? How to proceed? According to what action plan? What are the next steps? etc.

EXERCISE 7: Process of the synectic process

PHASE 1: Analyse the problem

Study the problem in detail, answer the group's questions.

Example: During a car ride, the headlights get dirty.

PHASE 2: Finding spontaneous solutions

Write down all solutions for participants to

see. Example: Windshield wipers for

headlights

PHASE 3: Reformulate the problem

Have the whole group reformulate the problem.

Example: How do you prevent headlights from getting dirty?

The problem identification phase is now complete. It's time to move away from it and into abstract thinking.

PHASE 4: Finding direct analogies

Develop as a group the first direct analogies drawn from a given domain. Often, technical problems will find good analogies in social issues or in nature. All members of the group must be proficient in the domain being used.

Example: What in nature causes soil erosion? Answers: rain, wind, rivers.

PHASE 5: Giving free rein to personal analogies

Have the group choose a direct comparison, in which everyone can get involved and develop a personal analogy.

Example: you are the wind, what do you do? You are free, you whirl and tear branches, you hug blades of grass, you bump into mountains, you whistle at houses, you roar and you soothe.

PHASE 6: Finding Symbolic Analogies

A personal analogy is chosen by the group and examined in depth by looking for an unusual, paradoxical, or symbolic analogy, in a manner similar to searching for a book title.

Example: enclose – limited freedom, intangible resistance (paradox), yoke (symbol), weak constraint

PHASE 7: Finding a second direct analogy

Again, look for direct analogies from the same thematic area, in this case from the technical field.

Example: What is it about technology that produces a constraint? glider, razor blade, brake

After you have completely moved away from the problem through these steps, now develop new associations of ideas and thought patterns.

PHASE 8: Analyse the direct analogy

List and analyze the characteristics and operating principles of one of the analogies in Step 7.

Example: The glider uses the wind. Its wing and rudder work with the wind and keep the aircraft in the air.

PHASE 9: Apply to the problem

Now we need to relate the analogies to the problem. This is the most important phase.

Example: What do gliders and headlights have in common? The shape of the headlights could take advantage of the force of the wind to clean the surface or prevent it from getting dirty.

PHASE 10: Formulate solutions

Formulate and rework solution proposals based on the ideas identified.

For example, a headlight with a conical surface, which does not allow dirt to cling, or a headlight whose shape allows the wind to create a cushion of air on the surface, thus preventing dust particles from being settled.

EXERCISE 8: How would so-and-so solve this problem?

This technique is extremely effective because it allows you to **move away from your own logic of thought.**

By exploring the problem/challenge from another perspective, many new approaches can emerge.

How would a person, a creative company, or someone who doesn't know anything about your field view the problem?

Theme: How to effectively reduce household waste?

Examples :

1. "How would a 7-year-old solve the problem?"
2. "What would Steve Jobs do to find solutions?"
3. "What would Google do if it was in that situation?"
4. "What would MacGyver do in your place?

EXERCISE 9: The worst-case scenario

Let's imagine a team that has communication problems, which is a source of internal conflict. The problem would be formulated as follows (**first step**):

"How can we improve our communication to work better as a team? »

The **second step** is to reverse this problem. We can thus formulate this problem as follows: "*How can we communicate in a less effective way to further degrade our teamwork?* »

Here are some ideas that could come out of the third stage, the idea generation phase:

- Always keep strategic information to yourself
- Sending emails indiscriminately
- Make sure you never cross paths in the hallways

- Speak only to say when things aren't working

The **next step** is to reverse these ideas:

- Systematically communicate strategic information
- Send emails in a reasoned way, only if it is necessary and it is impossible to talk about it directly to the recipient of the email
- Organize the space so that everyone can cross paths during

  the day

- Also speak up to highlight what works well

In the **final** evaluation phase, we will be able to discuss the most relevant ideas among those generated to solve the original problem, here "How to improve our communication to work better as a team?". We may find that some things are already partially implemented among the ideas identified, or that other things would be interesting to test.

In sub-groups:

1: Define the problem

2: Reverse the logic of the problem

3: Idea Generation

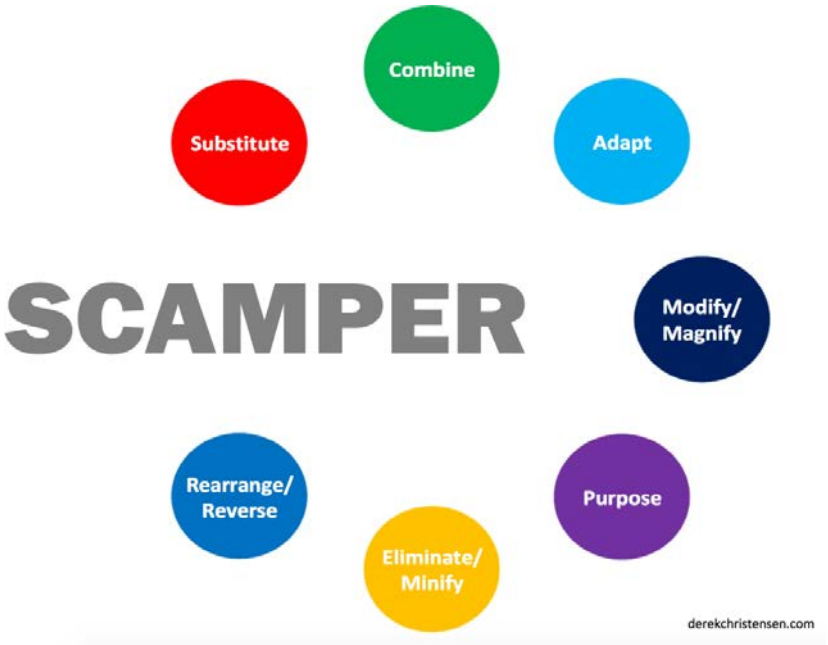
4: Inverting the Logic of Ideas

5: Evaluation and Selection of Ideas

EXERCISE 10 : The Scamper method

Use the Scamper method to come up with innovative ideas for the following proposition:

"How do you get rid of the smell of garbage at home?"



S for Substitute:

EX: What could be replaced?

C is for Combine:

EX: What could we combine or merge to multiply its uses?

A is for Adapt:

EX: What changes could be made to adapt it to another context?

M for Modify:

EX: What could we change to improve it?

P for Propose:

EX: What other use(s) could it offer?

E for Eliminate:

EX: What could be removed to simplify it?

R for Rearrange:

EX: How do you reorganize it to make it more efficient?

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