Applying Creativity Techniques

Content	Theoretical Knowledge	Skills	Competencies
Essential elements to promote creativity in the classroom *Creative techniques* *Choosing appropriate creative techniques*	*- What is creativity* *- Factors that affect creativity* *- Teaching methods and techniques in adult education* *- Criteria for choosing creativity techniques*	*- Creating a supportive environment to foster creativity* *- Understanding adult education methods* *- Learn new teaching methods* *- Assessing the appropriateness of techniques*	*- Stimulating creative thinking* *- Creating instructional strategies focused on systematic development* *- Planning and organising* *- Creating patterns* *- Think outside the box* *- Critical thinking* *- Brainstorming*

Introduction

People often assume that creativity is relegated to subjects such as art and drama and overlook its importance in areas in science, social studies, and non-formal training in professional and life skills. In today's postmodern world, change is the only thing for sure and the development of creative capacity can be the key to coping with uncertainty. Learning creative thinking is a useful vehicle for adult learners to polish their abilities and orientate the world around them (Kuan, 2012). Adult educators stand in a unique position in fostering creativity in the classroom and assist learners in transforming their thinking styles with an attitude to think outside the box and play with different ideas.

Topic 1 | Creativity Promotion Essentials

Generally, creativity can be defined as creating original ideas, processes, experiences, or objects. Creativity can be characterized as involving the ability to think (Guilford, 1986):

- **Flexibly**, or able to use many points of view
- **Fluently**, or able to generate many ideas
- **Originally**, or able to generate new ideas
- **Elaboratively**, or able to add details

The development of creative thinking over time is important for adult learners. It enables alternative ways of thinking, unblocks old patterns and habits to find new solutions to problems, builds intercultural connections and confidence, instills curiosity, stimulates and motivates individuals.

However, some learners are assimilators, who prefer to use known understandings to solve problems, and others are explorers, who like to find new solutions. Research shows that if the teacher's involvement in creativity is high (e.g. encouraging students to see themselves as creative), the creative achievement of students will also be higher. When appropriate creativity-enhancing processes are valued and supported by a “mentor,” the learning outcomes for the learner are greater. This process can be supported beneficially by technology (Shepard & Runco, 2016).

1.1 Key quality elements to foster creativity

Fostering creativity can range from simple team-building exercises to complex, open-ended problems that may require a considerable amount of time to solve. Promoting and supporting creativity can be accomplished in many significant ways focused on the learner and instructor. Below seven key quality elements are displayed that assist to foster creative performance for learners.

1. The first essential element in promoting creativity is **to create a welcoming environment**. According to Galbraith and Jones (2012), “a conducive and inviting environment is essential to generate creative and innovative ideas, projects, or products''. Individuals who feel a sense of trust, openness, respect, support, and acceptance are more likely to engage in learning activities. It is so important to establish a conducive climate. Without it, all other promotional dimensions related to creativity have little meaning.

2. A basic necessity to enhance creativity is to have instructors and learners from diverse backgrounds, with varying interests, learning and thinking styles, and experiences. **A diverse group of instructors and learners** can catalyze change and creativity within instructional processes.

3. Promoting creativity must also include **personalizing the environment** in which instructors and students work and learn. It is also essential to provide the necessary equipment to conduct the required tasks/exercises. The transformation and personalization of the environment generates the creative rhythms of the instructor and learner. Personalizing the environment also supports the experiences of instructors and learners by allowing them to put meaning to what they are doing and studying. In essence, personalizing the instructor and learner environment places a sense of control in their hands which is necessary for stimulating creativity.

4. A fourth factor in promoting creativity is **to provide time to generate new ideas**, projects, concepts, or innovative approaches to instructional and learning processes.
   It is vital that appropriate time is provided to engage in such processes. Time is necessary to buffer the day-to-day tasks in which instructors and learners participate. It is a fundamental element in becoming a critically reflective thinker, which can be seen as a necessity in creating new ideas, projects, and learning opportunities. To enhance this, one may select a specific day and time of the training programme in which instructors and learners share ideas. As generating new creative ideas takes time for both instructors and learners, this would allow participants to exchange ideas, to engage in and deal with encounters that may arise from debate and confrontation (Galbraith & Jones, 2012)

5. Another factor in promoting creativity is **to encourage feedback**. Edelman (1999) posits that, “New ideas need to be talked through in a supportive yet objective manner” (p. 10). By encouraging feedback, creative individuals are asked to engage in the process of exchanging feedback; that is, they need to engage in their creative action, reflect on the action, engage in creative action after learning from the reflective process, reflect again and so forth. It is apparent that a conducive environment can provide a supportive climate for ideas and allows innovations to flourish.

6. To provide **a supportive group interaction**, it is significant that some ground rules must be created and agreed, so that ideas brought to the table are debated in an open and honest manner. Supportive group interaction can be a substantial means to spawn new ideas, listen to different opinions, and serve as an agent for marginal voices within the group. According to Galbraith and Jones (2012), the primary overall benefit of group

interaction, in the promotion of creativity, is that it provides an environment composed of imaginative individuals who bring with them a set of divergent viewpoints that ultimately encourages imaginative thinking and gets the creative juices flowing.

7. The last but important element in promoting creativity in class are the **unplanned accidents, mistakes, and failures** that occur. They are all necessary components in the process of creativity. Since creativity is a human endeavor, accidents and mistakes are inevitable. The unplanned, unexpected, and unanticipated serve as a mechanism for further reflection and innovation. One should be leery if no mistakes are made throughout the creative process. This may suggest that someone is not thinking or trying to think creatively. To be creative, those engaged in the process quickly learn that it is essential to learn from their mistakes.

1.2 Teaching methods and techniques

Adult education requires the use of different teaching methods and techniques. Methods can be classified in three general categories:

a) methods of presentation (fast and comprehensive provision of information - difficulty to bring into action critical thinking of learners and relevance of teaching objects with other content or knowledge - danger for passive learners),

b) instruction methods (the trainer organizes learning activities aiming towards achieving a set of specific learning objectives – cultivation of reflection and critical thinking),

c) discovery methods (helping learners to follow a process of intellectual and mental exploration– practical training – transfer of learning).

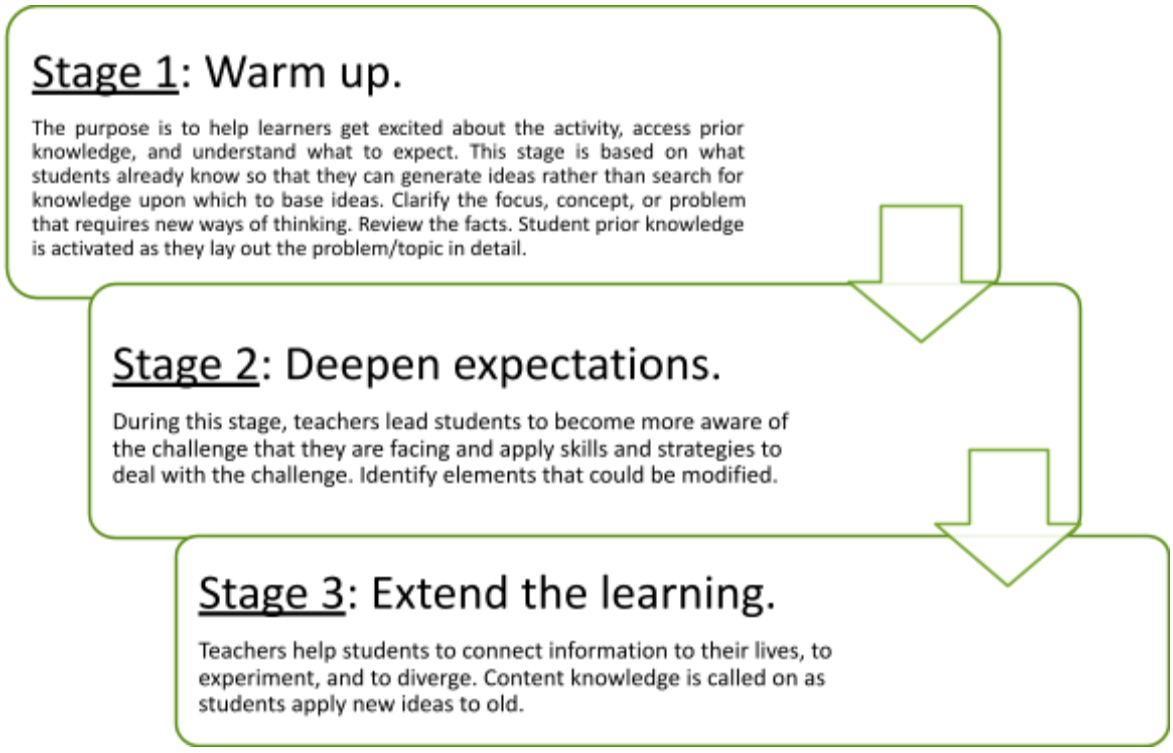
The last two categories of methods undoubtedly promote the active participation of learners which is one of the basic goals of adult education. The use of these methods depends on the nature of the teaching content, the teaching situation and the group of learners. Their combination can prove effective because it stimulates the motivation of adult learners avoiding monotony.

Although developing creativity and innovation in education is challenging, it is important and necessary to facilitate learners to obtain these abilities which also prepare them to succeed in their future complex work environments.

Instructional strategies that support creative and innovative learning should focus on **systematic development** (Seechaliao, 2017). These instructional strategies have common elements and processes: problems in the beginning, solutions findings, testing, and evaluation. Also, using various stimulating ideas to find possible solutions to problems can facilitate brainstorming and help learners think about new ideas. These results are similar to some

studies which indicated a common process of creating educational innovation. For example, in the process of creating innovation, Songkhram (2014) pointed out that the output is innovation, and the feedback is the result of the following steps of creating innovation and learners' evaluations. Results also showed that instructional strategies using questions, classroom discussion, self-directed study, inductive and deductive thinking, or media can engage students in learning activities and help them unlock their creativity in learning.

Keller-Mathers and Murdock (2002) suggest the following three-stage process for educators to use to systematize the creative thinking process:



In the following chapter, you can explore some useful methods and techniques that can assist you to create a creativity-based learning environment for adult learners.

IPAL
Quality in Adult Education

Co-funded by the
Erasmus+ Programme
of the European Union

Topic 2 | Creative Teaching and Techniques

"Imagination is more important than knowledge."
- Albert Einstein

2.1. Brainstorming

Brainstorming is one of the most common methods for creative problem solving, which is aimed at generating a large number of ideas or solutions to a predefined strategic or operational problem.

It is a group or individual creativity technique in which, when a problem is stated, students should start to simultaneously elaborate on the solutions. When more ideas are generated, they are more likely to be less stereotyped and more creative.

The technique is perfect for the amelioration of fluency, fantasy and communication skills.

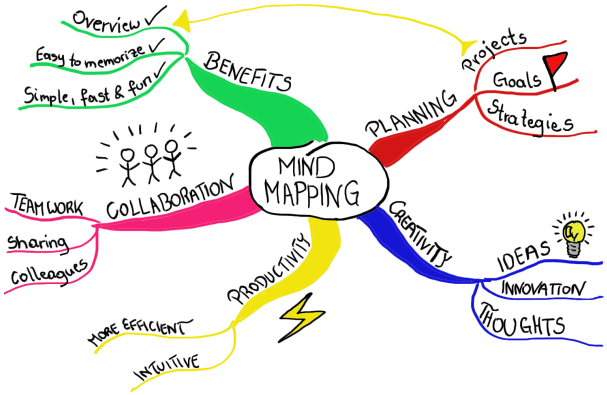
When brainstorming is conducted, it is advisable to have a leader of the session, which would define the problem, evaluate the outcomes and would facilitate the whole process. An evaluation method can be used in order to identify the ideas that have a value for implementation. There are no turns and no expert-only opinions. The four basic rules of brainstorming are:

- ✔ no criticism and no judgment of any idea;
- ✔ all ideas, even absurd, are welcome;
- ✔ quantity has value, the more ideas the better, if a large quantity of ideas is generated, then the idea pool would encompass more high-quality ideas;
- ✔ sharing and combining ideas, in order to construct new ideas, based on the old ones.

Brainstorming is not appropriate for complex and concrete problems, which require high-qualifies expertise, since brainstormed ideas could be too general or low quality.

2.2. Mind mapping

Mind mapping is a visual creative pattern of related ideas, connected to a central issue. A mind map typically contains:



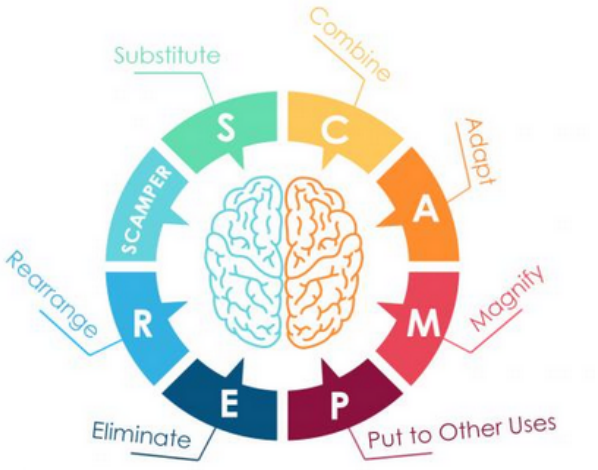
- ✔ the subject or the problem, situated in the centre
- ✔ keywords, which represent ideas, related to the central problem
- ✔ the keywords are connected to the central problem with the help of branches
- ✔ colours and symbols are used to highlight certain ideas

2.3. Storyboarding

Storyboarding is a creative technique for strategic and scenario planning. It usually takes place in a group of 8-10 people and one leader, who decides the order of the ideas and writes them down, creating the story itself. This technique enables the participants to identify the interconnections between ideas by putting the pieces together.

2.4. The SCAMPER technique

The SCAMPER technique is based very simply on the idea that what is new is actually a modification of existing old things around us. The SCAMPER technique aims to provide seven different thinking approaches to find innovative ideas and solutions. The name SCAMPER is an acronym for seven techniques:



(S) substitute: focuses on the ideas or components that can be replaced

(C) combine: merging two ideas or components in one single more efficient

(A) adapt: changing function of an idea or component for a better output

(M) modify: changing the process in order to obtain a more innovative problem solving

(P) put to another use: how to put the current product or process in another purpose or how to use the existing product to solve problems

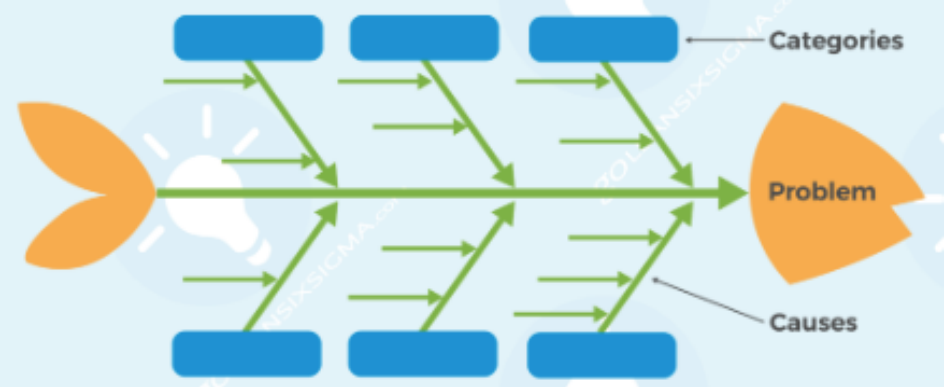
(E) eliminate: ideas or components, which are unnecessary and can be omitted

(R) reverse: explore the innovative potential when changing the order. Reversing the process or part of it can help to solve problems or produce more innovative output.

2.5. The fishbone diagram

The fishbone diagram identifies many possible causes for an effect or problem. It can be used to structure a brainstorming session and immediately sorts ideas into useful categories. The fishbone diagram can be used when identifying possible causes for a problem or when a team's thinking has reached a dead-end. The fishbone diagram procedure consists of six steps:

- ✔ agree on a problem and write it down at the centre-right of the paper or whiteboard. Draw a box around it and draw a horizontal arrow running to it.
- ✔ Brainstorm the pivotal causes of the problem and put them in separate categories.
- ✔ Write down these categories of causes as branches from the main arrow.
- ✔ For each category, participants should think of a reason. When each idea is given, the facilitator writes it as a branch from the appropriate category. Reasons can be written in several places if they relate to several categories.
- ✔ Write sub-causes branching off the causes and generate deeper levels of causes. Layers of branches indicate causal relationships.
- ✔ When the group runs out of ideas, focus attention to places on the chart where ideas are few.



2.6. Random Word

Random Word stimulation is a creativity technique that allows a person to access his/her subconscious mind and utilize the wealth of information it contains to generate fresh new original ideas. Random Word is useful as it breaks patterns and encourages wild ideas that generate creative leaps in thinking. The Random Word technique consists of four key steps:

- ✔ Select the random word
- ✔ Brainstorm around this word
- ✔ Write down the linking words or concepts that are generated
- ✔ Consider how these concepts might offer solutions to your problem and capture ideas.

Brainstorming using Random Words can lead to a number of new ideas that one might not otherwise have considered.

2.7. Brain shifter

Brain shifter is a creativity technique aimed at generating new ideas by having fun with a group of people. In brain shifter, the participants are required to get into character by changing their mindset and try to think like another person (E.g., imagine that you are a child, a lawyer, a salsa dancer or why not a superhero?). The ideas are written down on paper and at the end of the exercise, via idea voting, the best idea is chosen.

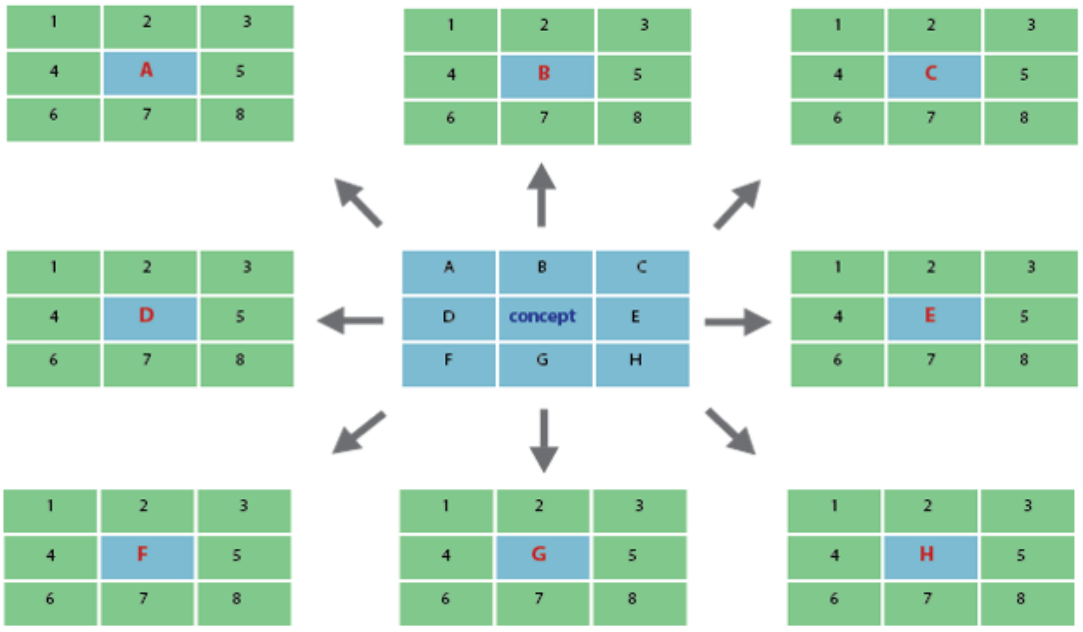
2.8. Picture Stimulation

Picture Stimulation is a very useful technique to provide ideas beyond those that might be obtained using brainstorming. The members of the group will look at a set of selected pictures and relate the information gained from the picture to the problem. Picture Simulation is carried out in a few steps:

- ✔ Select pictures from various sources.
- ✔ Each participant describes what they see in the picture.
- ✔ The group members are then asked to relate the information gained from the picture to the problem.
- ✔ This process is then continued until the group has run out of ideas.
- ✔ A new picture is selected until enough ideas have been developed.
- ✔ The ideas are discussed, developed and evaluated by the group.

2.9. The Lotus Blossom

The Lotus Blossom technique constitutes a structured brainstorming exercise used to expand on a central idea or problem. This creativity technique facilitates the creation of more and higher quality ideas, innovative ways of improvement and of problem solutions. In Lotus Blossom, teams are requested to place the original problem statement in the center box in a 3x3 matrix, then add related themes or elements of the problem in the 8 boxes surrounding it. After filling out this central box, 8 new grids are created with an idea from the first grid in the center. The process repeats, with the team adding 8 ideas for each of the 8 initial aspects from the first grid.



Topic 3 | Choosing a Creative Technique

The effectiveness of implementing creative learning techniques depends on several varying factors. For this reason, the trainer should be aware of which techniques are appropriate for each situation and implement them according to training objectives. Furthermore, trainers should combine and alternate techniques depending on the dynamics of learners (TIME, 2016). The selection criteria should be:

a) The purpose of each training session

When setting the learning objectives, you need to be clear about what you expect the learning outcomes, also known as success criteria, to be. Not all learners will be able to access the knowledge, skills or understanding in the same way, which means that the outcomes need to be differentiated. Think: 'By the end of this lesson, what do I want learners to know and be able to do?'. Think about different creative techniques and how to embed them in your training.

For instance, the Picture Stimulation technique can be more relevant when you want to learn about prior knowledge and experience in a certain topic than using the Lotus Blossom technique which requires a deeper understanding of an issue.

b) Preferred learning methods and characteristics of learners

One should take into consideration the different learning types of individuals (visual, kinesthetic, auditory). For effective training with a larger group, it is important to apply a methodology and facilitation style that combines different elements in order to cater for the needs of people with different learning styles. This is usually done through a mix of methods and components such as short lectures, use of whiteboards or flipcharts, open discussions, group work, practical exercises, role plays etc.

In addition, throughout the training, the facilitator needs to be sensitive towards the cultural context. For example, some activities may be culturally inappropriate for some groups or certain statements may be perceived as offensive. For example, when thinking of a certain problem when using the Lotus Blossom technique, make sure that the issue addressed will not be taboo/inappropriate for some of the participants.

c) Trainers' skills

The trainer should act as a facilitator in the learning process, clarifying the purpose of the activity and managing conflict with sensitivity, among other aspects.

The level of facilitation skills determines the techniques that a trainer can employ optimally and with confidence. For example, using the storyboard technique requires less effort to facilitate learning than the *Fishbone diagram*, subject to the size of the learning group too. Educators are encouraged to use multiple techniques to enhance their instructional practices though the level of preparedness to facilitate creative thinking is a vital factor to achieve a successful creative lesson delivery.

d) The learning climate:

In order to unlock imagination and strengthen cooperation, the educator should create an atmosphere and opportunity for contribution – where all participants trust that they can speak freely and where individual boundaries are honored. In each stage of the learning group formation, techniques can be used progressively in relation to collaboration aspects, to enhance interaction and discussion. In this sense, *brainstorming* can be a suitable technique to engage participants in small groups in the beginning and then form a larger group to work on an exercise using the SCAMPER technique (check Activity 2), connecting two teams with members already acquainted.

e) The available time:

One should consider the time available for exercises that stimulate creative thinking. The trainer should provide sufficient time to learners to explore, generate and discuss ideas. So, if time runs out, it is better to give a shorter *brainstorming* exercise to participants than to start working on a *fishbone diagram* that requires greater analysis from both sides. This should be taken into account in the design process of any training.

f) Available resources:

When designing a creative learning activity, the available materials and resources should be considered. For example, locally available materials can be used as learning aids in many ways. They can for example be used as symbols for certain actors and arranged in a way that explains the relationships between the actors. Symbolic materials may also be used as utensils in role-play activities such as the *brain shifter*. If the venue is outside and no other material is available, even sticks, stones and other natural materials can be used as symbols to explain certain issues. Lastly, regarding human resources, if more than one facilitator is available, more complex techniques such as *lotus blossom* and *mind mappin*g may be easier to be utilised with a large group of learners.

Co-funded by the
Erasmus+ Programme
of the European Union

Test and Evaluation

Creativity can be characterized as involving the ability to think:
a) flexibly
b) fluently
c) originally
d) all of the above

An important factor in promoting creativity is **to provide time to generate new ideas**, projects, concepts, or innovative approaches to instructional and learning processes.
a) True
b) False

According to Keller-Mathers and Murdock, the three stages in systematizing the creative thinking process are:
a) warm-up, deepen expectations, unfold
b) warm-up, deepen expectations, extend learning
c) warm-up, share experiences, deepen expectations
d) none of the above

A diverse group of instructors and learners can serve as a catalyst for change and creativity within instructional processes
a) True
b) False

A trainer should not provide much time to learners to generate new ideas
a) True
b) False

The fishbone diagram identifies many possible causes for an effect or problem.
a) True
b) False

The Lotus Blossom technique facilitates the creation of a single idea.

a) True
b) False

In the **SCAMPER** acronym, the letter C stands for:

a) curate
b) capitalize
c) combine
d) create

SELF-ASSESSMENT QUESTIONNAIRE

1. What does the Lotus Blossom technique involve?

2. Which are the seven key quality elements that assist to foster creative performance for learners?

3. How can creativity involve us to think?

4. How is Picture Simulation carried out?

5. In which three general categories can methods for teaching be classified?

Correct answers to the quiz:

1. a
2. b
3. a
4. b
5. a
6. b
7. c

Sources and Additional Materials

Edelman, P. (1999). Creativity and adult education, *Enhancing creativity in adult and continuing educarion: Innovative approaches, methods, and ideas*, p. 3-13

Galbraith, M. & Jones, M. (2012), Creativity: Essential for the Adult Education Instructor and Learner, PAACE Journal of Lifelong Learning, vol. 21, p. 51-59

Guilford J.P. (1986), Creative talents : their nature, uses, and development, Buffalo, N.Y. : Bearly Ltd

Keller-Mathers, S., & Murdock, M. (2002). Teaching the content of creativity using the Torrance Incubation Model: Eyes wide open to the possibilities of learning

Kuan, C. (2012), The Value of Teaching Creativity in Adult Education, International Journal of Higher Education 1(2), http://dx.doi.org/10.5430/ijhe.v1n2p84

Seechaliao, T. (2017). Instructional Strategies to Support Creativity and Innovation in Education, Journal of Education and Learning; Vol. 6, No. 4

Shepard A.& Runco M. (2016), Recent research on creativity and education, RICERCAZIONE 8 (2), 21-38

Sefertzi, E. (2000). Creativity. http://www.urenio.org/tools/en/creativity.pdf

Stein, S. (2014). Creative Techniques Handbook, http://openresearch.ocadu.ca/id/eprint/1043/

TIME project (2016), Self-study course for trainers of Intellectual mediators, Erasmus+

14 Creative Ways to Engage Students:
https://www.celt.iastate.edu/teaching/teaching-format/14-creative-ways-to-engage-students/
Instructional Strategies to Support Creativity and Innovation in Education:
https://files.eric.ed.gov/fulltext/EJ1148839.pdf
The role of creative education in the development of lifelong learning in an innovative society: ways to organizing: http://www.jcreview.com/fulltext/197-1589117943.pdf
Can Creativity be Taught?: https://www.creativityatwork.com/can-creativity-be-taught/
New Ideas - Strategies and Techniques:
https://www.mindtools.com/pages/article/newCT_88.htm

A repository of creativity techniques:
https://www.mycoted.com/Category:Creativity_Techniques
Learn about quality. Fishbone diagram. *https://asq.org/quality-resources/fishbone*

Sirbiladze, K. Scamper Technique for Creative thinking.
https://er.knutd.edu.ua/bitstream/123456789/7479/1/20170321_EconFinance_V2_P037-040.pdf

Thought Egg. The Lotus Blossom Creative Technique.
https://thoughtegg.com/lotus-blossom-creative-technique/

Vidal, R.V. Creative tools. *http://www.imm.dtu.dk/~rvvv/CPPS/5Chapter5creatools.pdf*