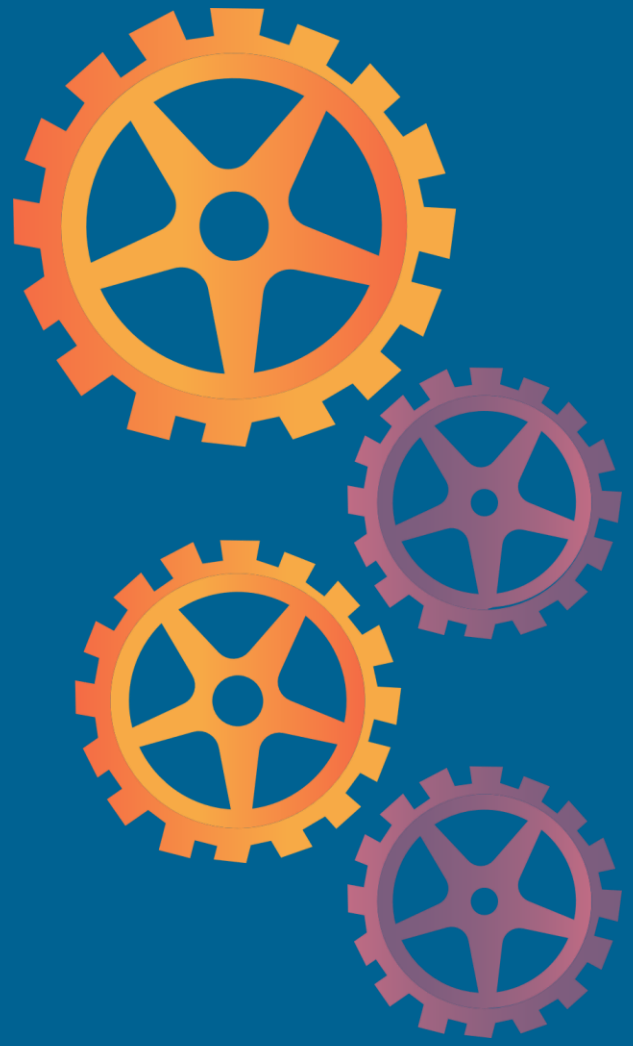
Innovative Agile Project Based Learning

Introduction to the concept of *Creativity*

Lillis Monica, Researcher HOU University



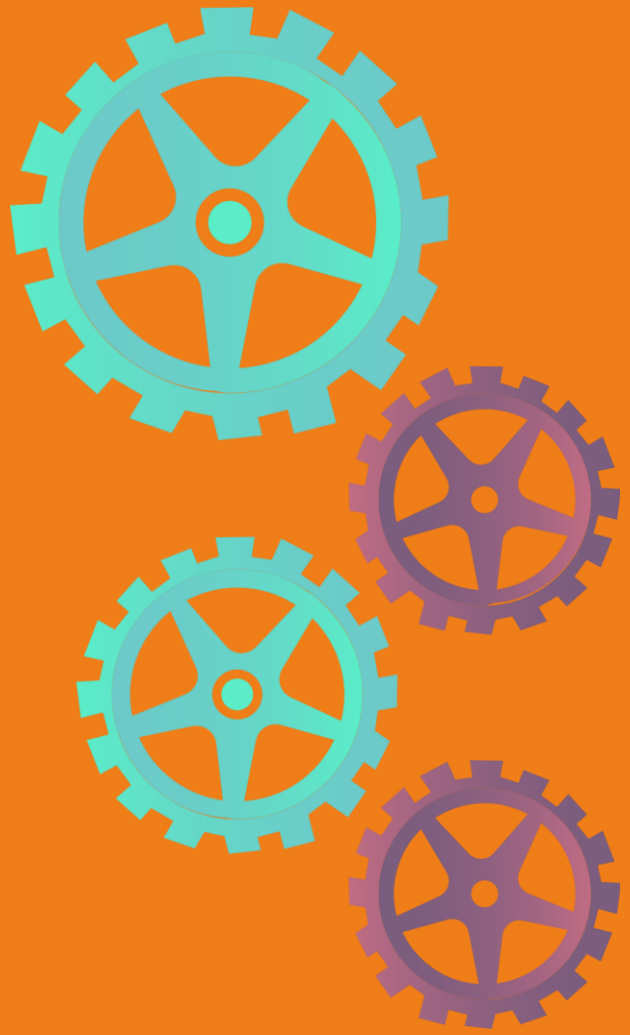
*What is **Creativity**?*

Creativity is defined in as:

"the production of novel, appropriate ideas in any realm of human activity, from science, to the arts, to education, to business, to everyday life".

*Thus, the ideas have to be **new** and **appropriate** to the opportunity or problem presented.*

(Amabile, 1997, Motivating creativity in organization: On doing what you love and loving what you do)



The main characteristics of ***Creativity***

Creativity is:

- *A deliberate mental function that each individual is capable of performing to some extent.*
- *It unfolds through a recognizable process and is verified through the* ***uniqueness*** *and* ***usefulness*** *of the result.*
- *Creativity can be improved through education.*

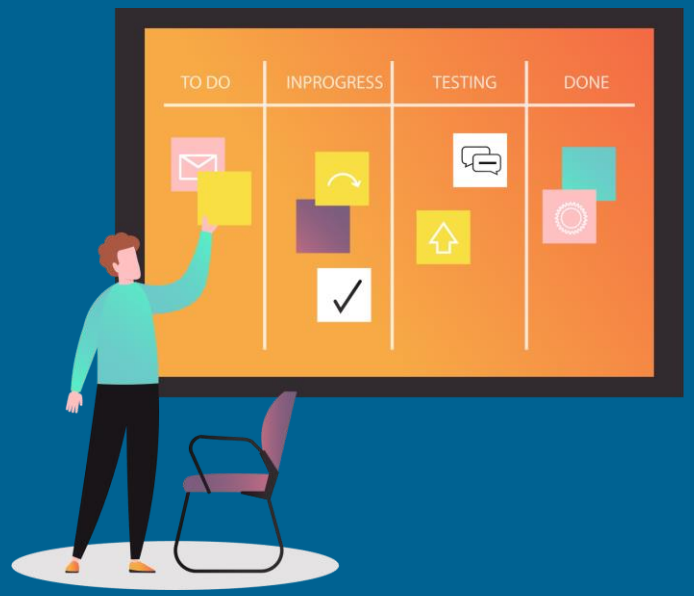
(Ford & Harris, 1992, The elusive definition of creativity)

A little bit of ***Background***

- ✓ Creativity, divergent thinking and innovation are among the **key skills of the 21st century**
- ✓ In addition to being fundamental elements of artistic education, they are also key in the development of Entrepreneurship
- ✓ The intensification of research on this subject began after the speech with which **J. P. Guilford** accepted the presidency of the American Psychological Association in **1950**
- ✓ In this speech, Guilford highlighted the need for a systematic investigation of this phenomenon and urged his colleagues to study it as a distinct human characteristic

*The path to **Creative Thinking***

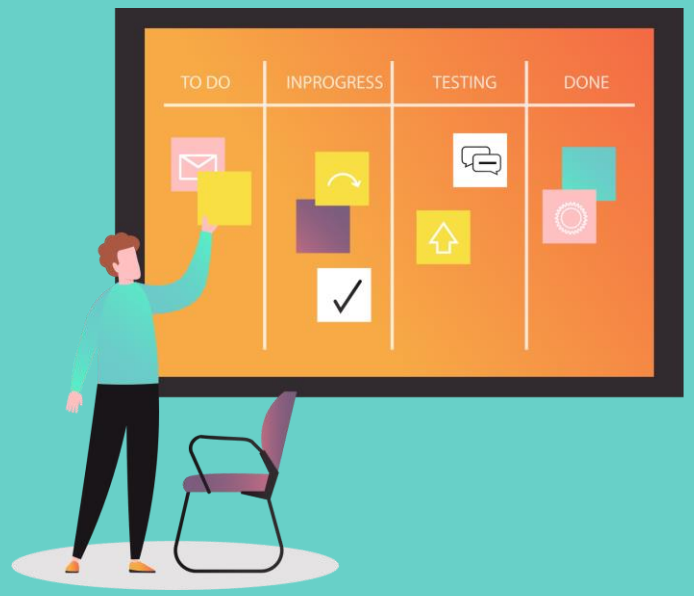
- ✓ Creativity does not depend singularly on talent
- ✓ Significant evidence has shown that intense **effort and strong motivation** can play a central role in the development and enhancement of creativity
- ✓ **Social and educational environments** play a central role too, since they can support or undermine the development of our creative skills



*The scope of **Creativity***

- ✓ The original exclusive connection of the concept of creativity with the world of artistic creation has been reconsidered
- ✓ Research interest has gradually shifted to other fields, such as **science**, **mathematics**, **engineering**, **business** and **architecture**
- ✓ Creativity has been added to the **measurable factors of success** in areas such as education, business and the general social context of everyday life

(Cropley, 1999, Definitions of creativity)

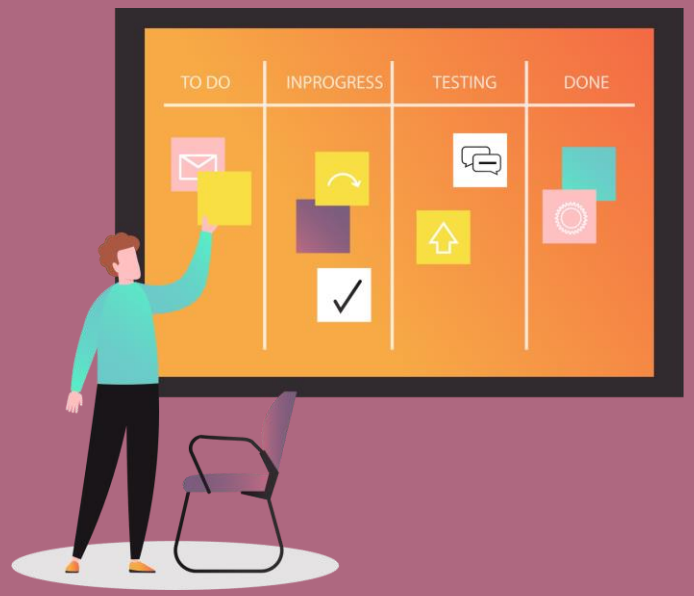


The 4 characteristics of the ***Creative process***

- **Imaginative**: It always involves imagination, since it is the process of generating something original
- **Purposeful**: It is imagination put into action towards an end goal
- **Original:** It produces something original in relation to one's own previous work, to their peer group or to anyone's previous output in a particular field
- **Valuable**: It has value in respect to the objective it was applied for

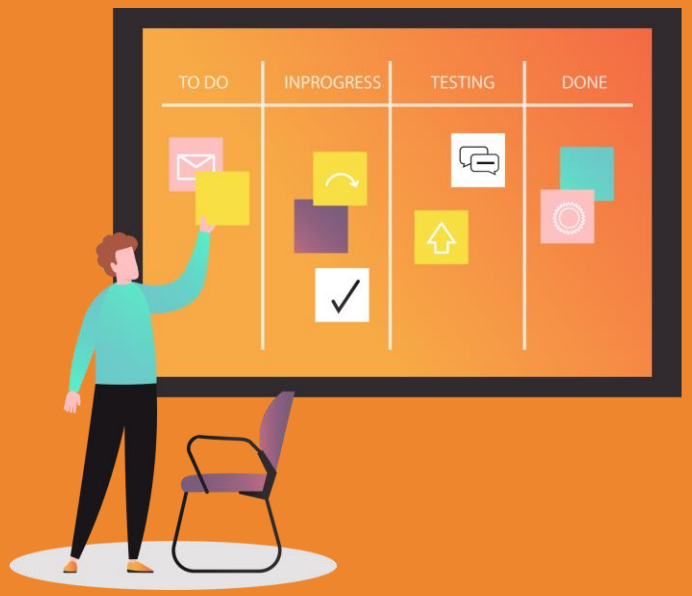
Creativity involves not only the **generation** of ideas, but also the **evaluation** of them, and the ability to pick and choose which idea is the most adequate one to the solution of a problem

(Ernesto Villalba, 2008, On Creativity Towards an Understanding of Creativity and its Measurements)



Why creativity became an essential 21st century skill

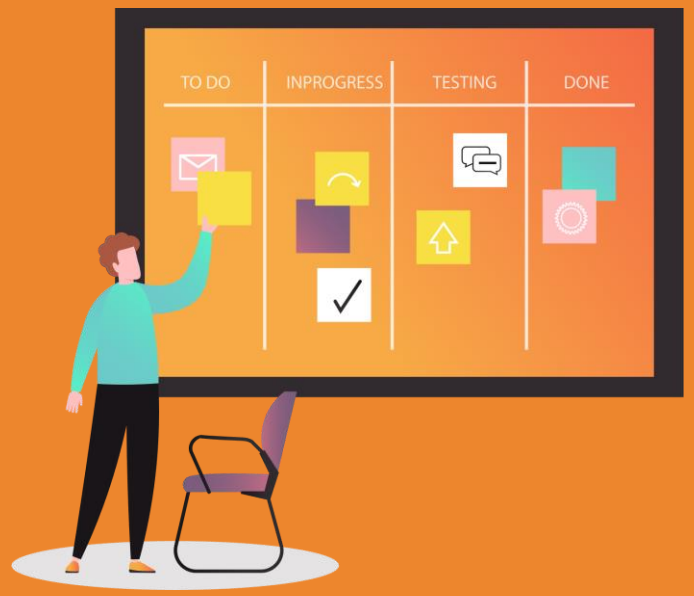
- **The reality in the 21st century is changing at a very fast pace.** The frequency of scientific and technological innovations that bring societal changes with life altering effects has risen exponentially (Innovations in computer technology, medicine, the internet etc.)
- **The pace of 21st century innovation leads to shorter product life cycles**
- **The erosion of a stable career path** (the labor market is now characterized by vital interconnections between sectors. Today's students may change jobs several times into this constantly mutating professional environment)
- **Creativity, innovation and flexibility of mind** are greatly valued in the 21st century's workforce and market



Creative ideas can be:

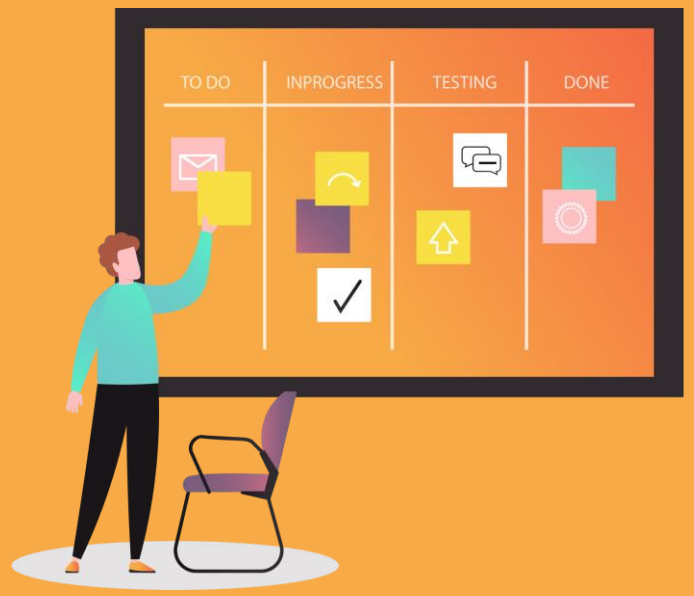
- A solution to a problem
- A new product
- A new method/process
- A new concept, product name or marketing campaign

(Christian Kohls, 2015, Patterns of Creative Thinking)



*The relation between **Creativity** and Innovation*

- We often see the words Creativity and Innovation paired together or used interchangeably
- Even though, **Innovation** tendentially bestows a greater emphasis on the ***application aspect of the creative process***
- **Innovation** complies with the second characteristic of creativity of "**usefulness**" or "**value**"
- Thus, Innovation is more frequently associated with the worlds of business, management, engineering, and entrepreneurship
- **Innovation** is widely regarded as the step of the creative process that gives **a solution to a problem** (the lack of certain product in the market, the absence of a marketing strategy, etc.)

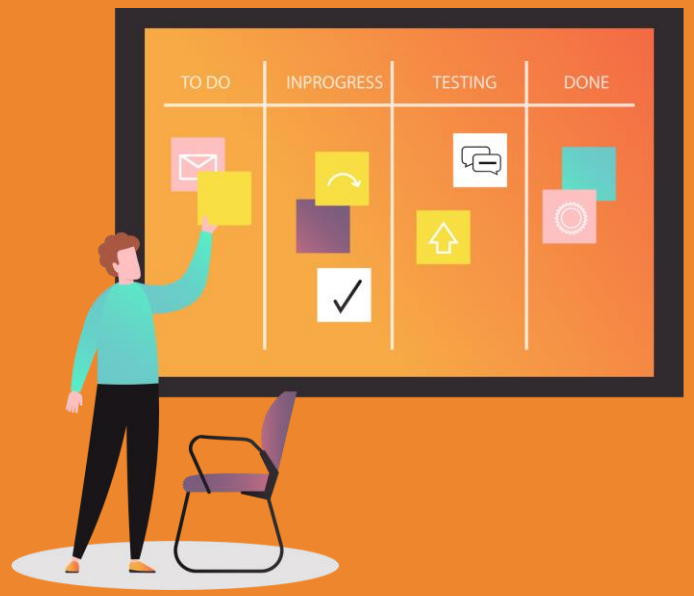


*Conditions that encourage **Creative thinking** and lead to **Innovation***

The Innovation Engine

- ✓ **Imagination**: Reframe a problem, ask open ended questions, connect and combine ideas, challenge assumptions.
- ✓ **Knowledge**: Deep knowledge of the matter at hand. Knowledge is the toolbox of our immagination.
- ✓ **Attitude**: Trust in our creative abilities, do not be afraid of getting it wrong, be **curious** and **naturally observant** of your surroundings, **ask questions**
- ✓ **Habitat**: Physical and social environments that encourage creativity
- ✓ **Resources**: Except funding, the most important resource is the **people** (human resources) and the nurturing of creative communities
- ✓ **Culture**: One aspect of culture that affects deeply Creativity **is how we deal with failure**, unexpected results in creative and research fields are called DATA.

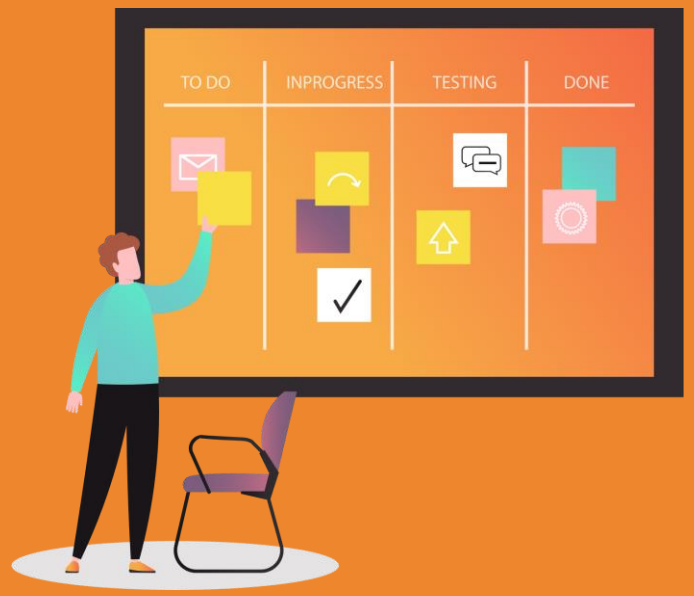
(Tina Seelig, 2014, Innovation Engine)



Thinking Patterns

- ✓ are a necessity for creative thinking.
- ✓ can be combined. By the various combinations, new forms of thought emerge.
- ✓ enable us to analyze and generalize accordingly, in order to solve a problem in new, alternative and creative ways.
- ✓ can be learned in the same way as analytical thinking.
- ✓ creative thinking tools are highly structured, and the same methodological patterns can be used recurrently.

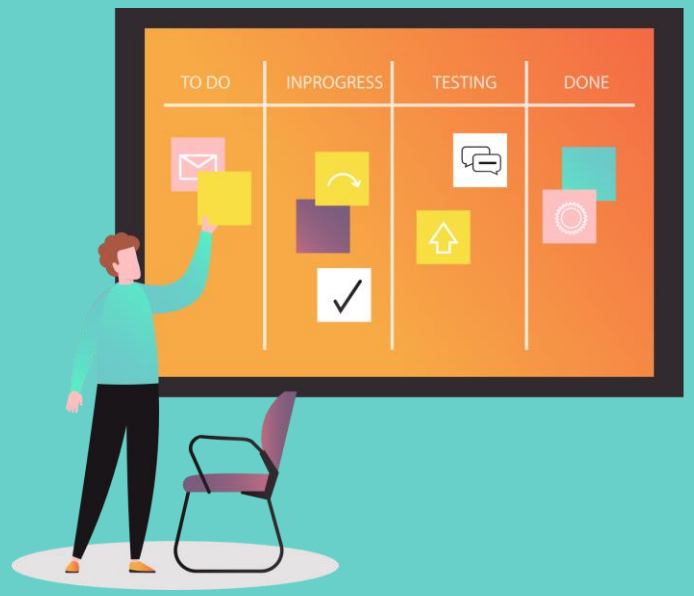
(Christian Kohls, 2015, Patterns of Creative Thinking)



*Patterns of **Creative thinking***

- ✓ **Multiple Perspectives:** deliberately looking at a problem from different perspectives. Seeing a situation in a more holistic way.
- ✓ **Idea Trigger:** stimulates thought into useful directions. An idea trigger should be used to generate more than one idea. The judgment about the ideas should be postponed to not stop the flow of new thoughts.
- ✓ **Random Impulse:** gives our thoughts a new and unexpected direction when we already have a good understanding of the situation, or we have studied the domain carefully, but we still can’t come up with something new that could innovate or solve existing problems.

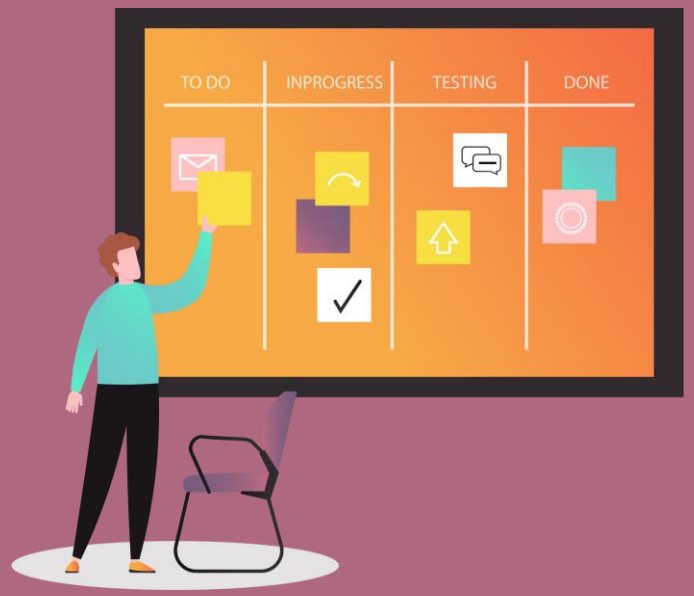
(Christian Kohls, 2015, Patterns of Creative Thinking)



Creativity and Entrepreneurship

In the measurement of successful ***Entrepreneurship***

most indicators are pointing to ***Creativity*** efforts, since they, by definition, are focused on the creation of something "**new**" and with "**value**" to the market.

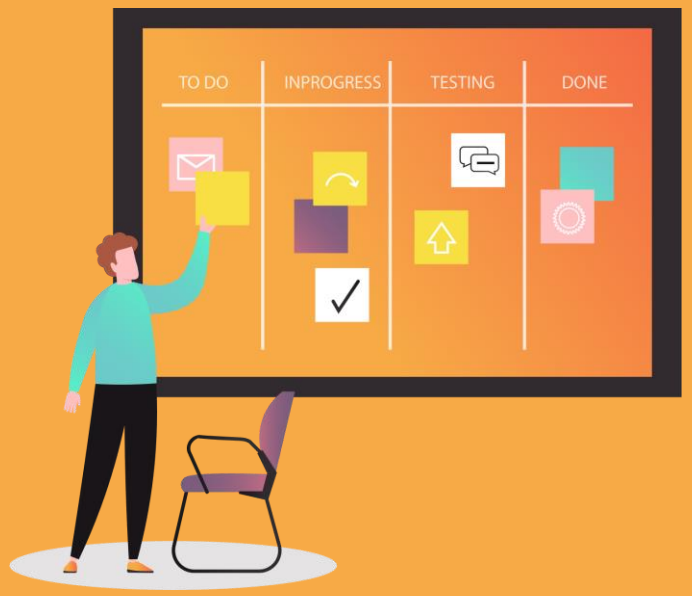


Digital Educational tools that spark Creativity in the Classroom

https://www.classtools.net/

for the creation of:

- Quizzes, crosswords, sudokus
- Experimental social media accounts
- QR codes for educational gaming purposes
- Virtual art exhibitions and museums
- Badges for teams or role playing characters
- Timelines of historical events
- Multimedia presentations



Recommended References

- Ali Taha, 2015, Creative Management Techniques and Methods as a Part of the Management Education: Analytical Study on Students' Perceptions
- Amabile, 1997, *Motivating creativity in organization: On doing what you love and loving what you do*
- *Cropley, 1999, Definitions of creativity*
- Ferrari et al., 2009, *Innovation and Creativity in Education and Training in the EU Member States: Fostering Creative Learning and Supporting Innovative Teaching*
- Ford & Harris, 1992, The elusive definition of creativity
- Kohls, 2015, Patterns of Creative Thinking
- *Seelig, 2014,* Innovation engine
- Universitat Jaume, 2015, Scopes of Creativity. Creativity in business
- Villalba, 2008, *On Creativity Towards an Understanding of Creativity and its Measurements*

Innovative Agile Project Based Learning

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

The project „Agile2Learn was financed with the support of the Erasmus+ Programme of the European Commission under the Grant No.: 2021-1-CZ01-KA220-VET-000025558

Agile2learn.eu

UNIVERSITY OF THESSALY

EPMA EUROPEAN PROJECTS & MANAGEMENT

HELLENIC OPEN UNIVERSITY

Consorzio Roma

HELLIWOOD