CREATIVITY ASSESMENT TOOL

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IMAGINARIUM: CREATIVE YOUTH FOR SUSTAINABLE FUTURES

ABOUT CREATIVITY ASSESMENT TOOL

Often when organising Design Thinking, co-creation or creativity workshops, we are confronted with the question "but what do they bring". We wanted to create a simple tool to show how different kinds of creative activities can support young people in developing their creativity. By using this tool, young people will be able to reflect on their creative process, whether they are more of creative doers or thinkers, and learn how they can develop their creativity. We believe that better awareness of our creative strengths and weaknesses may empower building more creative personality and future selves.

The Creativity assessment tool was developed by Dr Alla Gubenko as part of her PhD project at the University of Luxembourg .

Project Description

Many social challenges that we are facing, such as climate change, inequality or poverty, have been further deepened in a short space of time by the COVID-19 pandemic. Many dark narratives are being created, with environmental, social and economical crisis in the first line.
But, uncertainties should not frighten or paralyse us; they should help us anticipate and prepare.

In the project "Imaginarium", partners from Luxembourg (Art Square Lab), France (Co-Actions), Ireland (M-Powered) and Finland (University of Turku) are going to introduce creativity using Design Thinking and Futures Thinking methodology that will enable a proactive search for possible development solutions for tomorrow.

Young people will be ensured that designing the future is, on the one hand, a search for opportunities and potential, and on the other hand, systematic, purposeful and initiating practical solutions, aimed at responding to uncertainty.
On the other hand, youth workers will be supported with the research, materials and tools to introduce Futures Thinking and Design Thinking as regular creative ways of thinking for young people, adapted to the new realities.

Our Goals and Objectives

- Bringing the creativity in non-formal educational system thanks to the Design Thinking and Futures Thinking and creative problem-solving methodologies
- Supporting students and educators in developing new sustainable ideas for positive futures
- Supporting educators with materials useful for teaching creativity and sustainability
- Supporting educators with a tool to measure creativity of young people
- Professional development of staff and stakeholders: intensive training about the use of creativity in education of young people
- Encouraging young people to implement their ideas: informing them about the funding possibilities for Solidarity Projects (Erasmus Plus EU Program) and providing them with basic project information
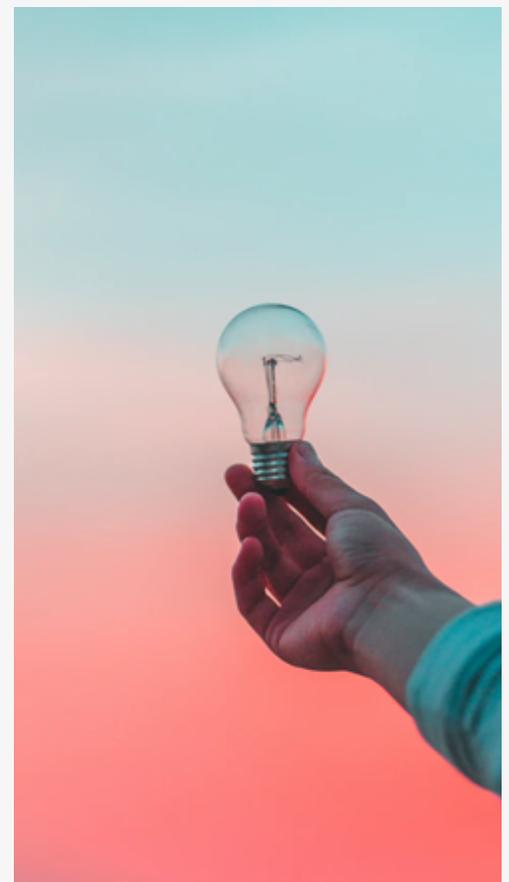- Management skills fostering social entrepreneurship and employment.

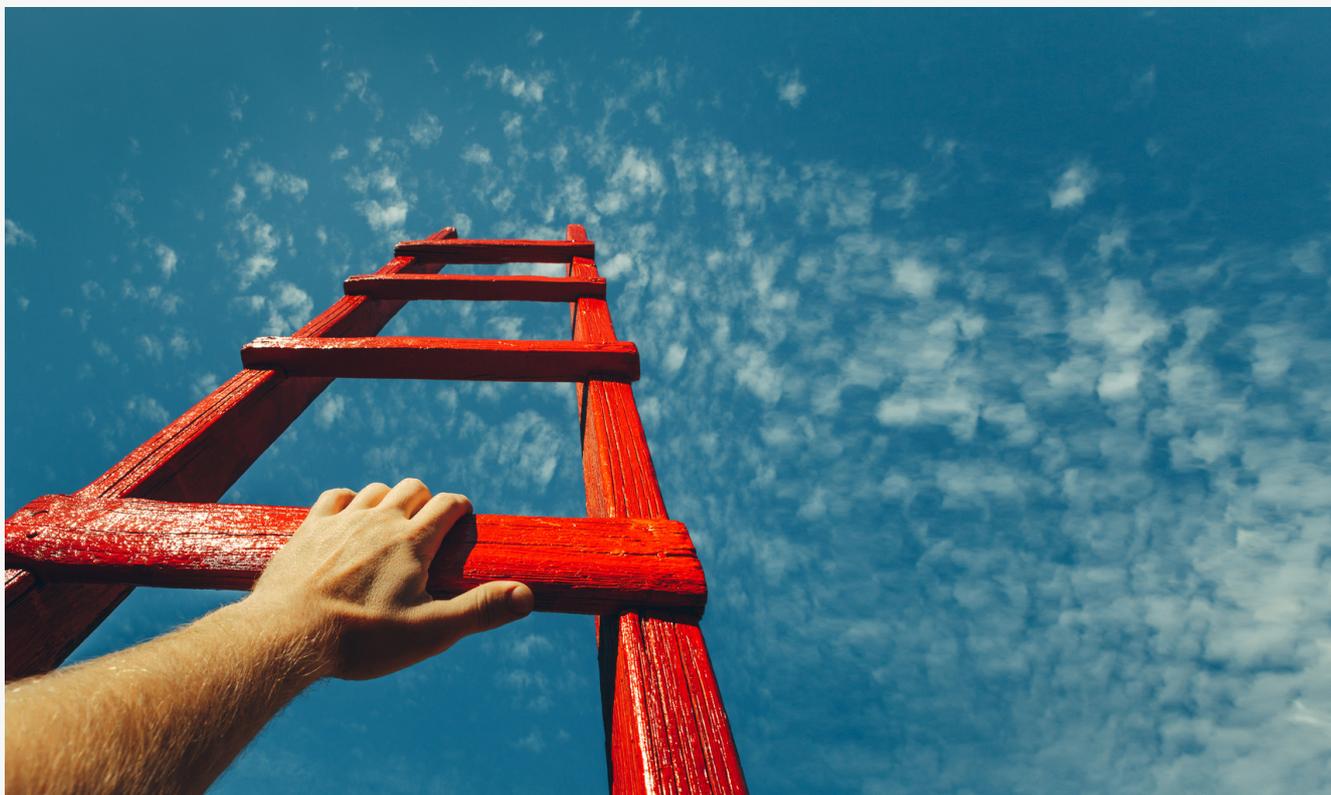Photo: Canva

Creativity in the youth work

Photo: Canva

Working with young people has its challenges. Creating a space and atmosphere where the young people feel secure and are able to find their place and worth is of a great need. They need open atmosphere and praise.

The generational gap between the young people and the youth workers is a challenge. Youth workers may not fully grasp the current challenges young people are facing, which can be linked to the use of technology for example.

The culture of youth is very hectic and anxious, therefore they have difficulties concentrating and committing to activities. Young people are overwhelmed with information which makes them anxious.

We are surrounded by so much negativity coming from news channels, pandemics, environmental changes, that it is difficult for young people to be optimistic and creative.

The youth should also not be generalised and the older generation should consider young people individually. Young people should be given room for thoughts and imagination, motivated by youth workers and educators to imagine positive future. They should be given time and space to try, experiment and make mistakes to learn and grow. These "experiments" can help them develop their creativity.

Introduction for youth workers

Creativity is considered one of the most important competences of the future and also the one that is hard to imitate by technologies like artificial intelligence. Nevertheless, far too often it is associated with talents in visual arts (especially drawing, painting, etc.) and this is why young people asked if they are creative would often give negative answers.

In this work, we took a more holistic vision of the creative process and conceptualized it as the process of generating and exploring new possibilities and alternative futures (Gubenko, 2023). In this perspective, creativity is envisioned as an action-orient process that drives movement from what is to what could be (Craft, 2015). We believe, it is through the creation of new ideas and actions that young people can reduce uncertainty and deal with the ambiguity that the future holds (Beghetto, 2021).

"Everyday, be creative. Creativity is like a muscle" (James Altucher)

Introduction for youth workers

From this point on, the development of creative competence becomes also more concrete for teachers, educators and youth workers. It is much easier to work with creativity when we deconstruct it in smaller steps and we can start talking about measuring it.

Herewith we come up with a creativity measuring tool developed in the frame of the EU Imaginarium Project in 2022/2023 by Dr. Alla Gubenko from University of Luxembourg. The tool should ideally be applied before and after a creative group session (e.g. design jam, thinkathon, co-creation workshop, etc) to measure the dynamics of the creative self-efficacy. The session should have the element of "thinking" (e.g. brainstorming, divergent ideation) and "doing" (building prototypes, sketching ideas, etc). See Appendix 1 for the details.

How to use the tool

The creativity measuring tool is a self-assessment tool. It is a set of 20 statements that should be completed individually by a young person, prior and following to the creative group activity, if you want to see impact of your intervention. The tool can be used in two formats: online survey or paper & pencil.
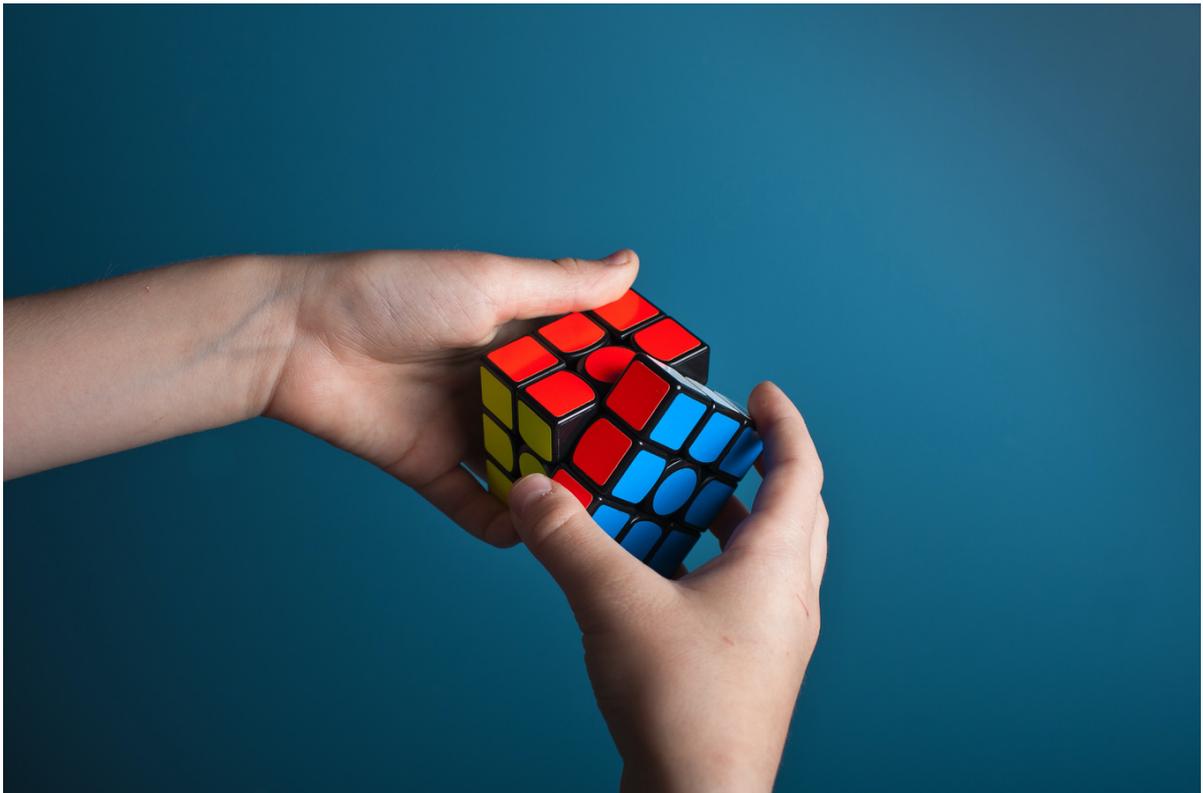
Photo by Olav Ahrens Røtne on Unsplash

Paper version of the creativity assesment tool

Print the 2 versions of the survey for each student and offer one copy per student/ participant at the begining of the intervention and another one at the end.

Important: ask them to sign with a nickname so that the paper can be found again at the end of the activity. After 10 min collect the papers and invite the students/participants to the creative activity.

Repeat the test after your intervention (creativity workshop, thinkathon, co-creation).

Ask students/ participants to count points of the questions 1-10 (creativity thinking) and 11-20 (creativity doing) and write on the bottom of the test. Pay attention to the progress, not the result. The important thing is to show that both creative thinking and doing can be developed.

Ask students to compare number of points they had before and after intervention.

Here you can download the survey in three languages (English, French and Finnish) :

https://bit.ly/creativityscales

Online version of the creativity assesment tool

You can also administer the test online. If you have a Google account please copy the survey into your account and share it with your students. Make sure that you make them fill in the form twice (prior and after). Students will receive their answers by e-mail to be able to count the points. This option will allow you also to see group results and compare results before and after your " intervention (workshop, co-creation, participatory event).

Link to the google form:
https://bit.ly/creativityassesment

Group feedback

When students are done with the calculations, you can share the feedback with them. You can provide the feedback to the whole group by presenting the slides or describe the two dimensions to them:

- Creative thinking
- Creative doing.

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Group feedback- DOER

For those who score high on the Doer Scale, putting new solutions into practice, materializing and testing their ideas comes easily. The higher the score on this scale, the greater is one's potential as a 'doer', Doer is a person who likes to create, look for new practical solutions and test them right away. The person knows how to use available resources and materials. People who are "doers" have the creative courage to move forward and try things out!
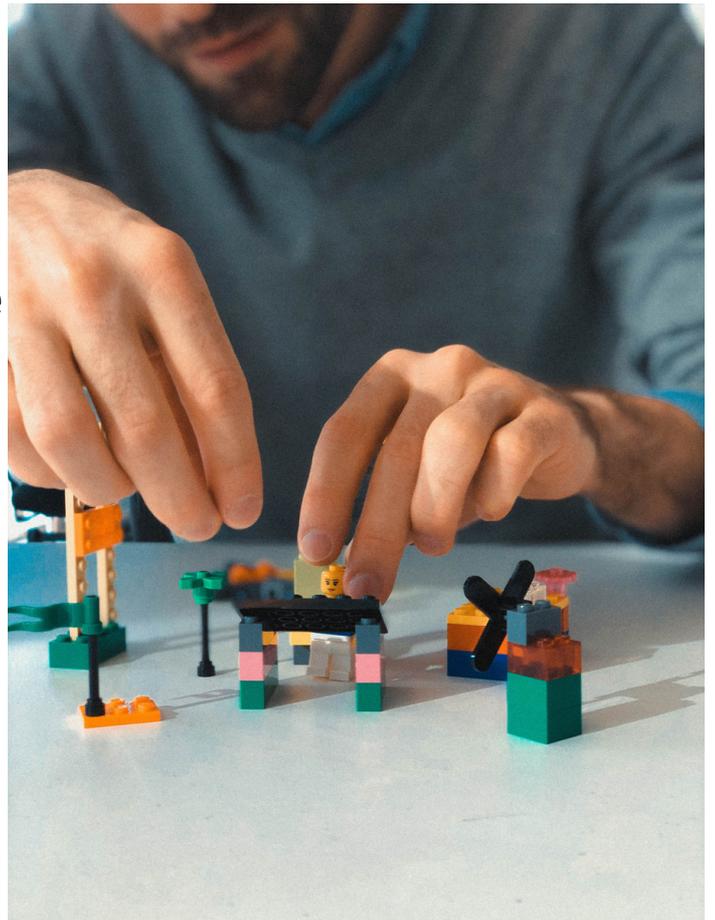
Photo by Sebastien Bonneval on Unsplash

Group feedback- THINKER

Creative thinking-THINKER

People who score high on the Thinker scale are good at generating new ideas. These people are curious and like to delve into problems to understand them better. "Thinkers" are people who can make non-obvious connections, consider different options and have no problem with coming up with new solutions. People with a high score on the "thinker" scale are great at finding new inspiration, creating new ideas and consider problems from different perspectives.

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Feedback questions

After sharing feedback with the group you can have a discusion with the participants.

Some questions you can ask:
- Do you agreee with the results? Please share your opinion
- Are the results in line with what you thought of yourself?
- According to you, is creativity necessary in everyday life?
- Can we develop creativity? How?
- How can I strengthen the "doer" or "thinker" side of creativity?

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What you can do to develop your "Doer" side:

- Go on and try your ideas out;
- Play with materials, build new solutions, test your ideas right away
- Try to draw more, use any abailable tools to visualize and make a detailed vision of your idea
- Explore different materials, think with your hands and build prototypes
- If you have an idea, try to build it as soon as possible using basic materials like cardboard, paper or Legos
- Sign up for improvisation workshops, role play
- Do not wait for the perfect timing
- Allow yourself to make mistakes

Photo by Mika Baumeister on Unsplash

What you can do to develop your "Thinker" side:

- Solve rebuses, puzzles-it's a super way to discover "non-obvious" combinations
- Visit exhibitions
- Be curious-when you see a new solution, see how it works? what problem does the service product solve, how could you do it differently?
- Look for new applications for objects of everyday use - how else could you use, for example, a pen?
- Meet other people - talk about new ideas, concepts
- Learn about trends, new solutions - subscribe to newsletters, follow new trends,
- Ask yourself questions, what if...e.g. what if there is no car?
- ....

Action Plan

After discussing the results, each participant can prepare their action plan with 3 activities they will undertake to boost their creativity. (they can choose from the list above)

To develop my creativity, I will...

- ....
- ....
- ....

Participants can share with each other and discuss their ideas (add more ideas from other collegues).

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Creativity for better tomorrow!

Creativity allows us to create different solutions, different future scenarios… thanks to this, young people gain self-confidence and faith that they can make a difference.

The youth should learn how to imagine desirable possible futures. But not only imagine, they should also learn that what they do today and tomorrow, can make those futures happen. This is what Futures Thinking is about: You imagine possible futures, you choose a desirable one and then you think what you can do to achieve it.

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PROJECT PARTNERS

THE AWESOME PEOPLE BEHIND THIS PROJECT

ART SQUARE LAB SARL-S SIS - LUXEMBOURG
CO-ACTIONS- FRANCE
M-POWERED- IRELAND
UNIVERSITY OF TURKU- FINLAND
DR ALLA GUBENKO - UNIVERSITY OF LUXEMBOURG

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Appendix

Creative thinking and doing scale (Gubenko, 2023)

Instruction

You will now read several statements about your creative process. Without being too reflective and self-critical, please evaluate the extent to which each statement applies to your personal experience. Try to think about your best self.

1	2	3	4	5	6
Strongly Disagree	Disagree	Rather Disagree	Rather Agree	Agree	Strongly Agree

1. I am good at generating new and original ideas
2. After some thinking I can come up with a lot of original ideas
3. Sometimes I can come up with ideas other people have never thought of
4. I enjoy mentally playing with ideas
5. I can combine ideas in ways others have not tried
6. I often create new ideas by combining existing ones
7. I try to see problems from different perspectives
8. I often use the technique of brainstorming to generate new ideas and solutions
9. I know how to generate new ideas
10. I am a person who has a lot of ideas
11. I enjoy playing and exploring materials
12. When I don't know how to do something I often start by trying
13. I like finding new ways of doing ordinary things
14. Experimentation is an important part of my creative process
15. Practical implementation of ideas is as important as idea generation
16. It is often in doing that I find new ideas and solutions
17. When I don't have necessary equipment to solve a problem, I often improvise with the objects that I have
18. I like to experiment with objects
19. I like doing things differently
20. I like to find new uses for common things

Appendix

Creative self-efficacy score = average of 20 items

Instead of overall score we recommend to use 2 sub-scores:

1) creative thinking (items 1-10) SUM……
2) creative doing (items 11-20) SUM……

Scores for the discussion of the results of each dimension:

10-30 – low   31-50 – moderate   51-60 – high

Appendix

Creative thinking and doing scale (Gubenko, 2023)

Introduction

The present study had two major objectives. First, to design an assessment tool in order to operationalize and validate creativity in the conceptual unity of creative thinking and doing (Gubenko, 2023; Gubenko & Houssemand, 2022a,b). Second, to evaluate the effectiveness of the intervention using a newly designed tool by measuring the dynamics of participants' creative confidence before and after the intervention.

Creative self-efficacy and self-perceptions of the creative process

Creative self-efficacy concerns a person's perceived confidence to creatively perform a given task, in a specific context, and at a particular level (Beghetto & Karwowski, 2017). Both theoretically and empirically, creative self-efficacy is closely related to the notions of creative meta-cognition and creative self-concept (Reiter-Palmon et al., 2012), which pertain to perceived confidence judgements and beliefs regarding expected creative performance.

Numerous psychometric instruments have been developed to measure creative self-efficacy, like 3-item creative self-efficacy measure (Tierney & Farmer, 2002), the short scale of creative self (Karwowski et al., 2018), 3-item creative self-efficacy scale (Beghetto, 2006), Runco Ideational Behavior Scale (Runco et al., 2001). Generally, researchers report a positive association between creative self-efficacy and actual creative performance (Haase et al., 2018; Farmer & Tierney, 2017). However, given that creativity has been associated with individual and predominantly mental process of generation of ideas and solutions, it inevitably affected how creative self-efficacy and associated constructs have been

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 operationalized. Therefore, along with accentuating the importance of creative ideation when designing a tool to measure creative self-efficacy we wanted to put an equal emphasis on the participants' perception of the efficiency of the practical side of the creative process concerned with active inquiry and experimentation with objects and materials. This rationale resulted in the development of two-dimensional 20-item scale evaluating individual confidence related to the efficacy of creative thinking and doing (Annex 1).

Sample

A sample of 68 students attending public high school in Luxembourg participated in this study (age range 19-21). Participants worked in small groups (max 6 persons). The post-training data of 1 participant was missing, the participant has thus been eliminated from statistical analyses.

Creative thinking and doing scale

For this project Gubenko (2023) has developed a scale aimed at measuring individual self-efficacy. The scale consisted of 20 questions measuring 2 dimensions: Creative thinking and creative doing. Each dimension comprised 10 questions. The instruction asked participants to read statements about their creative process and evaluate the extent to which each statement applied to their personal experience using 6-point Likert scale, ranging from Strongly agree (1) to Strongly disagree (6). The instruction explicitly called participants to evaluate their best self without too much reflection and self-criticism.

Appendix

Results

We have first checked the psychometric qualities of the new scale. Cronbach's alpha for the thinking sub-scale (items 1-10) was .88, for doing sub-scale (items 11-20) was. 88, and .93 for overall scale (items 1-20), suggesting high internal consistency of the two dimensions and the overall scale. High internal consistency has also been found for post-test data, where alpha estimates of .94, .91, and .96 have been obtained for thinking, doing and overall scale correspondingly.

Test-retest reliability has been estimated using Pearson's correlation coefficient that was equal .73 (p < .01) for thinking and .62 (p < .01) for doing dimension correspondingly. Test-retest reliability for overall scale was .73 (p < .01), suggesting a moderately high consistency of creative self-perception across time.

To estimate the results of the intervention we have measured the dynamics of participants' creative confidence. To this end, we compared the mean confidence ratings given by participants on each dimension of the self-efficacy scale prior to and after the intervention. The results of paired samples t-test indicate that the intervention yielded in the improvement in participants' self-believes related to 'thinking' dimension of creativity, $t(66) = -7.1$, $p < .001$. The mean score of participants ideational confidence before the intervention was 38.0 ($SD = 7.2$) and 43.1 ($SD = 8.4$) after the intervention. Moreover, there was a significant increase in participants' self-beliefs related to practical side of the creative process ('doing' scale) after the intervention ($M = 44.6$, $SD = 7.6$) compared to the participants' self-beliefs before the intervention ($M = 39.4$, $SD = 7.0$), $t(65) = -6.7$, $p < .001$.

The results mean that the participants' self-perceptions of creative efficacy after the intervention were more positive than before the intervention, suggesting the potential of the intervention to improve individual creative confidence ratings. The intervention that we designed resulted in the significant improvement of individual confidence in the efficacy related to both dimensions of the participants' creative process.

Appendix

Conclusions

We have provided details on the development and implementation of a theoretically-backed tool to evaluate the efficacy of the new training by measuring the dynamics of participants' creative confidence. Overall, the results of our study reveal that embodied and enactive training combined with ideational exercises may contribute to the participants' confidence performing creatively on a task and positively affect participants' perceptions of the efficacy of their creative behaviours.

We invested efforts in better comprehension and measuring creative confidence since participants' self-perceptions of creative process allow to tap to individual meta-cognitive judgements that combine individual self-knowledge (i.e., beliefs about one's creative strengths and weaknesses) with contextual information (i.e., the level of task difficulty or ambiguity) (Beghetto & Karwowski, 2017). The second reason of our empirical focus on creative self-beliefs as a target of intervention in this study is our intuition that the items of the scale containing descriptions featuring both embodied and mental processes underlying the creative performance may help participants to update their explicit knowledge about the main components of the creative process as well as to construct better implicit theories of creativity (Sternberg, 1985). It is possible, that knowledge and awareness of the role of both ideational and embodied cognitive processes may increase the accuracy of participants' creative self-concepts and self-evaluations made on the fly during the creative performance. Therefore, in our study we have tried to promote creativity by targeting not only actual performance and autonomous exploration of the tasks (know how) but also participants' reflections on one's creative process (know what).

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Possible applications and future use

The results of self-evaluations may provide useful and valuable information in educational, vocational, organizational, and therapeutic settings, especially with young people, whose creative self-concepts are in the process of development. In this sense, the scale may be a useful tool to track the dynamics of one's creative confidence in short- and long-term interventions. Additionally, the scale could be applied to conduct 360 degrees assessment to compare one's self-perceptions of creative efficacy with evaluations made by friends, teachers, or parents to discover eventual discrepancies of one's creative self-judgements.

While the calculation of the total score is theoretically possible, we recommend the use of two separate scores to obtain more accurate snapshot of an individual creative confidence. A comparison of the one's efficacy on each dimension may help to identify and examine one's self-efficacy related to creative ideation and creative doing and guide further reflections on one's creative cognition.

Appendix

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Anex

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