Self-efficacy in creative thinking development: An investigation from an online asynchronous training

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Introduction
Creativity has been defined as an individual’s capability of producing appropriate solutions, ideas or creating something novel and unexpected (Plucker et al., 2004). Self-efficacy is formed from previous “successful performance experiences, personal factors, and environmental influences” that “strong efficacy beliefs lead to effective self-regulation and persistence” (Lemon, 2010, p.152). Previous study found that students who believe they are creative held an assumption that creativity is a skill given by nature and somewhat associated with visual or performing arts (Lemons, 2010). In current classroom, with the aid of technology and visual materials, do students’ performance outcome reveal their unfolding ideas? (Gholam, 2018; Tishman & Palmer, 2005). What can we do to support students to unfold their creativity? (Ben-David Kolikant, 2019).

Aims of this study
In responding to the call to better support college students to reveal their unfold ideas and develop meaningful creative outcomes (e.g., fluency, originality, and flexibility), we proposed a 3-week creativity online experimental course intervention that aimed to investigate whether this approach would reveal students’ creativity and creative self-efficacy.

Methods
Research design and procedures:
- Participant recruitment: chain-referral (snowball) sampling method from Australia, Taiwan, and United States
- Data collection: data were collected from assignment results, i.e., photos, online discussion responses, and reflective journal

Participants
- Age range: 18-31
- Average age: 20.90

Intervention Design
3 weeks of non-academic related intervention amed Making Creative Thinking Visible (MCTV)
Five essential skills, observation, imagination, connection, creation, and reflection training
Emphasizing in mindfulness psychology concept
Well-facilitated online instruction and support

Findings
The triangulation data analysis method was employed to check the creditability of the codes and data source from the participants’ reflection, discussion content, artifacts, online course log, and follow-up emails. Two themes were merged.

Theme 1: Perceptions of Creativity changed
Several participants mentioned that their perception of creativity has changed from natural talent to believe that creativity can be trained. Examples are as follows:

“I used to think that creativity was a fixed intelligence that originates from, and only from, genetically influences. Now I think that creativity is not all about fixity and some areas of creativity could be learnt and improved through practice, effort and motivation.”

~ Bridget, Australia

I used to think that creativity is something of a talent … Now I learned that creativity is publishable …

~ Kate, South Africa

Theme 2: Self-confidence raised
Several participants also mentioned that they feel confidence of their creativity after the training. We listed two examples here:

“I always think that I am not an artistic person. I doubted if I could improve my creativity through training, although I believe in the power of education. … However, the more time I spent on it, I feel I can finish it faster [in the second week].

~ Jonathan, South Korea

“I used to think that I could not be creative with items I was familiar with. … Now I think that I can be creative with things that are lying around the house.

~ Melinda, USA

Discussion and implications
- Students across countries tended to believe that
  - Creativity is fixed and is hard to be trained
  - Low-self confidence in creativity
- The intervention stimulate the students to
  - believe that creativity can be learned and improved through practice
  - stimulate their inner desire to be more creative in different ways
  - appreciate things around them
  - pay more attention to their surroundings

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