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Creativity – The missing link between critical and future oriented thinking in higher education

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Although it is known that creative people contribute to welfare in economic, industrial, social and cultural domains, there is little support for developing this potential in education. As research is consistently showing (see Mumford et al., 2012), creativity a skill to learn, and not an innate ability, there is indeed substantial potential to develop in all types of education.

Higher educational systems tend to discourage innovation and to use factual material that impedes higher order cognitive functions. For example, students’ critical reviews are knowledge based and often framed as end products. The thinking style is about identifying mistakes and failures, and to question aspects of the text and argumentation. It is also essential to demonstrate an independent judgment. In this way, more negative than positive emotions are involved in this mainly individualistic learning process.

A frequent belief in educational settings is that first basic knowledge and skills need to be developed, then higher levels of understanding is possible, implying a rather linear development and failed assessment of creative products (see Biggs & Collis SOLO taxonomy, 1982).

However, for creativity to emerge, the individual needs a general understanding of the subject, a certain (divergent) thinking style and task (intrinsic) motivation as well as a supportive environment (Amabile, 1983). The process is not linear in that way. At the core, skills, cognition and context (social aspect) play important roles.

**Definition of creativity**

Creativity is a **process** dependent on a person’s understanding of the subject, a certain thinking style and task motivation as well as on a supportive environment (see Amabile, 1983). The process will result in a novel and **useful product** as defined within a social context.

**The creative work process**

- **Problem definition**
  - Problem finding
  - To clarify and define the problem to be solved
- **Idea generation**
  - To create a large amount of ideas
  - To build on each others’ ideas
  - No ownership of ideas
- **Idea evaluation**
  - Evaluation of ideas including analysis and judgement
  - How to improve ideas
  - Revision may be needed (go back to clarification and idea generation)
- **Implementation planning**
  - Practical considerations

(see Mumford et al., 2012; Sawyer, 2012)

**Emotion and cognition**

- An openminded approach with curiosity, perspective-taking and tolerance is necessary (Feist, 1998)
- Positive emotions are involved in the creative thought events (Amabile et al., 2005)
- To navigate into the future by guidance by the present and representations of possible future ideas and solutions (Seligman et al., 2013)
- Motivation is more task-oriented than goal-oriented (Sternberg & Lubart, 1992)
- Intrinsic motivation is more important than extrinsic motivation (Amabile, 1983)

**Challenges**

The challenges of this unconventional way of working with idea generation are:

- Everyone is participating on equal terms regardless of position, authority or knowledge
- The individuals are guided in the present by what is not known (a kind of abstract thinking) that may increase feelings of uncertainty
- The harsh voice of judgement has to be transformed into showing interest
- Time has to be divided between phases of divergent and convergent thinking
- To use blended learning despite complex alignment
- To note is that knowledge is a prerequisite for creative thinking, yet only one tenet of the creative process
- To make appropriate evaluations, knowledge is needed not only for good but creative outcomes (Mueller et al., 2012)

**References**


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