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Orchestrating a creative learning environment: Design and scenario work as a coaching experience - How educational science and psychology can help design and scenario work & v.v.

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ABSTRACT

This article considers design and scenario work as a team-coaching experience. It presents the componential theory of learning in coaching and the underlying componential model of creative learning, highlighting some ideas and showing some possibilities of using them for creating and implementing a creative learning environment necessary for the success of both design and scenario work. The benefits of other methods and tools of educational science and psychology are also briefly described. Finally, possibilities arising from the new as well as the usual perspectives on design and scenario work for educational science and psychology – more precisely, coaching and creativity research – are dealt with. In the last section of the article, general principles used are highlighted and summarized. Some connections to fundamental questions of the role of sciences, arts, theory and practice as well as of the location of design and scenario work are discussed. Thereby, a possible solution to the related controversy is initially proposed. Overall, this article shows some of the areas in which educational science and psychology, on the one side, and design and scenario work, on the other, can be of mutual benefit. It aims to initiate further discussions about connections among the mentioned fields, and seeks to suggest some possibilities for interdisciplinary research and utilization of its results.

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1. Introduction—Design and scenario work as coaching experience

Scholars have already described scenario work and design in terms of learning and creativity (De Geus, 1988; Schoemaker, 1993; Schwartz, 1996; Van der Heijden, 2005; Cross, 2006; Beckman & Barry, 2007; Buxton, 2007; Binder, de Michelis, Jacucci, Linde, & Wagner, 2011; Bhatti, Kimbell, Ramirez and Selin 2013). According to the Oxford Futures Forum, both are about “collective action” and team work “rather than a matter of individual skill” (Bhatti et al., 2013).

Design, on the one hand, can be described as a way of the accompanying use of future scenarios for generating prototypes, with the goal of creating new forms and engendering a possible disruption of the past. On the other hand, scenario planning can be understood as a process of the supporting use of design techniques for manufacturing possible future scenarios as

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feasible ways of development of the past. Those descriptions can help see some similarities and differences between the two. However, as a “collective action,” design and scenario work can also be considered as a form of team-coaching (with a facilitator) or team-self-coaching (without a facilitator).

Indeed, all the three main components of coaching are in place: coaching process, coaching dialogue, and relationship. As described by [Bhatti et al. \(2013\)](#), “iterative discovery” and “purposefulness” mean that a targeted adaptive process – a coaching process ([Steckelberg, forthcoming](#)) – is in place. “Materiality and embodiment,” “focus on human experiences” ([Bhatti et al., 2013](#)) and their use as the starting point for a discovery together with “mediating and translating” ([Bhatti et al., 2013](#)) as attempts to “communicate unusual, contrarian, and even difficult ideas and [...] to enhance creativity” ([Bhatti et al., 2013](#)) as well as to translate “complex phenomenon into action” ([Bhatti et al., 2013](#)) are typical of a coaching dialogue, and are, at the social information level (cf. below), impossible without an empathetic, “human-centered” ([Bhatti et al., 2013](#)) relationship that represents a typical coaching relationship ([Steckelberg, forthcoming](#)).

Moreover, as scenarios are possible future developments and designs create possible future expressions, nobody from outside the team can provide information of any significant value for the “right” solution. Information, trends, estimations, and opinions are of little value without critical reflection and careful assessment of the scenario planning or of the designer group. Thus, only ideas with a strong group’s identification have the potential of being accepted and no direct knowledge transfer ([Steckelberg, forthcoming](#)) takes place.

Consequently, the componential theory of learning in coaching and the underlying componential model of creative learning ([Steckelberg, forthcoming](#)) apply and can help understand the mechanisms of and support to an individual design or a scenario team member’s contribution to the team work. With the help of both models, educational theory and practice as well as the methods and experiences of learning psychology can be applied to the situation of design and scenario work. Combined with well-known methods of team work facilitation and improvement, this approach could help make design and scenario building and their use more successful and productive.

This article briefly describes the componential theory of learning in coaching and the componential model of creative learning ([Steckelberg, forthcoming](#)). Moreover, it makes some suggestions on how they can be used for design and scenario work. Furthermore, some ideas are shared on how the new perspectives on design and scenario work could advance coaching research and what benefits creative research could gain by basing its studies on design and scenario projects. Finally, general principles used are highlighted and summarized. Some connections to fundamental questions of the role of sciences, arts, theory and practice as well as of the location of design and scenario work are discussed. Thereby, a possible solution to the related controversy is initially proposed.

2. The componential model of creative learning

Both design and scenario planning are creative activities since their goal is the creation of something (appropriate and) new ([Amabile, 2012a, 2013](#); [Steckelberg, forthcoming](#)). Hence, a creative learning environment boosting creativity and its underlying learning is a precondition for success. The Componential Model of Creative Learning reveals factors and conditions that play a part in fostering an individual’s creative learning. Understanding of the creative learning process and individual conditions for the emergence and development of creative learning is, in turn, essential for being able to design and create an appropriate learning environment for a group and to implement it accordingly ([Steckelberg, forthcoming](#)).

The componential model of creative learning ([Steckelberg, forthcoming](#)) is based on and comprises two preceding models: the Componential Theory of Creativity ([Amabile, 1983, 1996a,b, 1997, 2012a, 2013](#); [Amabile, Hennessey and Grossman 1986](#); [Amabile, Conti, Coon, Lazenby, & Herron, 1996](#); [Amabile, Barsade, Mueller, & Staw, 2005](#); [Amabile & Mueller, 2008](#); [Amabile & Pillemer, 2012](#); [Lubart, 1999](#); [Steckelberg, forthcoming](#)) and the INCO-Model of Successful Learning ([Hasselhorn & Gold, 2009](#); [Steckelberg, forthcoming](#)), and, therefore, covers all components essential for an individual’s creative learning along with the process involved. To establish the last claim, two preceding models are briefly described.

“The componential theory of creativity was originally articulated in 1983 by Teresa Amabile as ‘the componential model of creativity.’ It has undergone considerable evolution since then” ([Amabile, 2012a, 2013](#)). It “[...] includes all factors that contribute to creativity—person factors as well as work environment variables [...]” ([Amabile, 1996a](#)) and comprises “three within-individual” ([Amabile, 2012a, 2013](#)) “components of creativity, each of which is necessary for creativity in any given domain” ([Amabile, 1996a](#)): Domain-relevant skills such as “expertise in the relevant domain or domains” ([Amabile, 2012a, 2013](#)) and creativity-relevant skills/processes such as “cognitive and personality processes conducive to novel thinking” ([Amabile, 2012a, 2013](#)), and (task) motivation. The fourth “component outside the individual is the surrounding environment—in particular, the social environment” ([Amabile, 1996b, 1997](#); [Amabile, 2012a, 2013](#); also cf. [Amabile, 1983](#); [Amabile et al., 1986, 1996, 2005](#); [Lubart, 1999](#); [Amabile & Mueller, 2008](#); [Amabile & Pillemer, 2012](#); [Steckelberg, forthcoming](#)). The components of this model influence and are influenced by a creative process comprising the five following phases or sub-processes:

- (1) Problem or Task Identification (identification or definition, or finding the task or problem).
- (2) Preparation (any preparations needed: gathering information, development of corresponding skills etc.).
- (3) Response Generation (idea generation).

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