

Promoting Creativity in the Classroom: Assessment Experiments in the Brave Space

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ABSTRACT

In this paper a vision on how to teach creativity and how to assess elements of it are proposed in a case study as part of the minor Connected Creativity which is taught at the faculty of Industrial Design Engineering at the Delft University of Technology. Intrinsic motivation and a 'brave space' are essential elements for enabling learning as well as creativity. Since the aim of the Connected Creativity course is to learn about creativity, intrinsic motivation and the brave space are further examined. Two approaches for assessing creativity in the brave space are proposed and reflected upon. One is about the 'learning pact' to allow students to customize the course's learning objectives and make them more relevant for them. The other approach is reflecting upon the experiment of assessing journals on quantity only: so, how many pages are filled, instead of assessing the quality of the pages by using rubrics.

Purpose – Best practices and learnings from assessing creativity in the classroom.

Design/methodology/approach – Several case studies were conducted in the context of the minor Connected Creativity at the Delft University of Technology.

Originality/value – A vision on teaching creativity will be shared as well as example on how to assess creativity without killing creativity as a side effect.

Keywords: Creativity, Assessment, Brave space, Productive failure, Journaling

1 Introduction

Creativity is the production of a novel and appropriate response, product, or solution to an open-ended task. (Amabile, 1996: p35, Runco & Jaeger, 2012). And such responses and solutions are exactly the things we need in professional, governmental, and academic context, to solve complex problems and adapt to our constantly changing environment. 1,500 CEO's identified creativity as the No.1 leadership competency of the future (IBM Global Insights Study, 2010). So, we need to educate the next generation of creative leaders (Anderson, 2006). However, teaching creativity and especially assessing it requires different approaches than the conventional approach to assessing students' skills, which tend to kill creativity (Beghetto, 2005). This paper will share some experiments of teaching and assessing creativity to promote creativity. This is done through case study from the minor Connected Creativity (Goncalves, *et al.* 2022), taught at the Delft University of Technology.

2 Vision for Teaching Creativity

In one of the courses of the Minor Connected Creativity, creativity is approached as a skill that can be used in a deliberate way to apply it whenever the situation requires it. The students are taught about deliberate creativity in an individual, group and organizational setting. As it is considered a skill, obviously, practice is an essential element, so: learning by doing. But an essential element to add to that is reflecting thoroughly and repeating that again and again and again... until a moment of saturation. To be open to this intense experience, the student will need to be intrinsically motivated to embark upon this journey and they should be willing to experiment and fail.



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2.1 Promoting Intrinsic Motivation

Enabling intrinsic motivation can be done by engaging students, creating awareness about the aims of the course, and making the learning objectives meaningful to them. And the way Burleson (2005) phrases it:

Awareness and reflective technologies can be instrumental in developing a meta-cognitive ability to make conscious and unconscious decisions about engagement that will ultimately enhance learning, expertise, creativity, and self-actualization.

Intrinsic motivation is not only essential to engage the students in learning, it is also considered as one of the three components to enable creativity (Amabile, 1988, 2016).

Another approach that really helps to boost the engagement of the students and, as a result, the intrinsic motivation is to let students organize part of the course. If the staff arranges all kinds of stuff, the students have the tendency to take a passive attitude. If they need to take care of things themselves, they will automatically adapt to a more active mindset with a can-do mentality. This mindset will apply to certain tasks, but cross-fertilizes other elements of the course as well, making the student more in charge of its own learning. As Kay (1991) formulates it:

Difficulty should be sought out, as a spur to delving more deeply into an interesting area. An education system that tries to make everything easy and pleasurable will prevent much important learning from happening.

2.2 Promoting experimenting and failure

A safe space is often seen as the ideal environment for learning. E.g. Holley and Steiner (2005) describe safe space as an “environment in which students are willing and able to participate and honestly struggle with challenging issues” (p. 49). Initially, we tried to create a safe space in the creativity course as well. However, soon we started to question whether a safe space is beneficial, appropriate, and reasonable in learning about creativity. Boostrom (1998) summarizes the challenges of learning quite well: “Learning necessarily involves not merely risk, but the pain of giving up a former condition in favour of a new way of seeing things.”

This is true for learning and equally relevant to creativity, which always involves discovering novel perspectives and solutions. Therefore, inspired by a case study done in the context of social justice (Arao & Clemens, 2013), we introduced the *Brave Space*. In the brave space it is easier to teach skills that are necessary for becoming more creative, such as experimenting, taking risks and embracing ambiguity. In addition, the use of assessment in making social comparisons should be minimized in order to foster student creativity (Beghetto, 2005). Instead, the focus on self-improvement should be encouraged, then, students are more likely to take risks, seek out challenges, and persevere in the face of difficulty (Nickerson 1999; Pintrich and Schunk 2002; Stipek 1998). Embracing ambiguity, risks and failure in order to learn is not an easy thing for students to adapt to. Therefore, the principles from the productive failure theory (Kapur, 2015) are used, as well to communicate the potential.

3 Assessment experiments in the brave space

The assessment approach for the course was designed to focus on learning, understanding, and mastering the skills for applying creativity deliberately, inspired by Beghetto (2005). As mentioned before intrinsic motivation is essential for both learning as well as creativity and creating a Brave space will help to establish the right mindset and attitudes needed for learning as well as for creative behaviour. Then, the question

arises, how to assess creativity, while maintaining the brave space and without compromising experimentation and failure? A generic answer to this question is about creating optimal 'creative press' (Rhodes, 1961). Therefore, any creative output in this course will only be assessed formatively. Instead of grading the creative output, the reflection on the process and creative output would be graded. This will allow students to experiment, take risks and hopefully experience some productive failure as well! Below, two approaches are discussed in more detail.

3.1 Learning Pact

Integrating intrinsic motivation in teaching and assessment is beneficial, as it is a success factor for both learning as well as creativity. To enable autonomous motivation, students will act based upon personal interest (de Haan, 2021). Engaging students in developing their own learning objectives is a powerful way in letting students think about the course in relation to what they hope to get out of the course. So, they should get the chance to customize the learning objectives of the course to their needs and wishes to a certain extent. This is implemented by letting them create a *'learning pact'*: a physical object that reflects for them what their return on investment is for investing their time and energy in the course. Once they have created it, they will share it with some peers, they will rephrase some of the learning objectives for the team. As a result, both awareness as well as commitment to these learning objectives is established. In addition, this is a great way for the lecturer to align expectations as well.

How to assess the learning pact? The learning pact itself is not summatively assessed, it is just a matter of pass/fail whether they have created this artifact. However, the learning pact is a powerful tool to use in reflection exercises, which will be summatively assessed. It is also a great reflection artifact, as some of the learning objectives may change during the course, due to new insights. In addition, the learning pact can be used along the way to mark success moments for the individual students. Whenever they achieve a goal represented in their learning contract, they can celebrate the success.

3.2 Journaling

Throughout history, creative minds like Einstein and Michelangelo used the power of journaling. In higher education, the power of reflective journaling is underlined as well, grounded in the idea that self-knowledge enhances learning (Cunliffe, 2004, Hiemstra 2001). The relevance of journaling in relation to the creativity course, journaling can help to identify and challenge assumptions (Cunliffe 2004), make unusual connections (Connor-Greene 2000) and arouse curiosity (Hill and McGinnis 2007), all of which are skills central to creative performance (Kelley and Kelley 2013). But how to assess a journal in a creativity course? Jane Machin, assistant professor at the Radford University, is currently examining the power of assessing a journal based on quantity only (Machin, 2019). Journals can be assessed through written rubrics, pictorial rubrics, but why not quantity only? After all, one of the basic principles of Brainstorming (Osborn, 1948) is that quantity breeds quality. Quantity would be as easy as: how many pages did you fill up by the end of the course. And the number of pages are directly linked to a grade. According to Machin:

Grading on quantity reduces subjectivity inherent in typical journal evaluation and encourages more frequent entries, giving students more opportunities to practice skills that support creativity while easing their fear of judgment. Simplifying the grading of journals to counting pages also benefitted the instructor which may encourage the adoption of journaling in classes where previously the grading burden may have proved prohibitive.

The initial results of this experiment look promising (Machin, 2019). Students are encouraged to journal more, even though they think they have nothing to journal about. They will just start and at a certain point, relevant reflections and ideas start to pop up. Quote from student:

Because it is a lot of pages so even if the content is not great you would still have to get creative in order to fill so many pages. In doing so it is possible to learn more ways to be creative.

Obviously, the fear of judgment and failure is minimized as they are not concerned with the fact that the lecturer will read their stuff, which is another success factor for promoting creativity. Quote from student:

You can be as creative as you can without thinking about what you should and should not write.' and 'I'd feel more comfortable with writing whatever I want to know that none will read it in detail. This also allows me to explore the way I want to journal without putting any restrictions on me.

By the end of the course, the students were asked to reply to the following statement: "This journal assignment was beneficial to me" and "I would recommend keeping this journal assignment in future editions of the Minor." Respectively the average would be 4,4 and 4,6 on a five-point scale. When the students were asked in an open question why they would recommend this approach, the fear of judgment was hardly mentioned. The main reasons that popped up were that it helped to organize their thoughts (8 out of 28), e.g., "Actively putting your thoughts on paper helps to be aware of your thoughts and be more deliberate" and "it helps to create mental space."

7 out of 28 appreciated the fact that they had built a habit of journaling. E.g.

Having the journal with me all the time meant I always had a place to note down any ideas and thoughts before they disappeared. The goal of filling the journal all the way also led to more quantity of writing and sketches, which ultimately helped with quality (in my opinion).

6 out of 28 mentioned that it helped them to gain insight in themselves and their creative person: e.g.

I feel like this assignment really helped me understand myself and my creative preferences during this past quarter.' and 'Journaling actually helped me gain some insights that I was subconsciously feeling (and thinking) but never dared to actually think or consider about seriously - it brought them to the surface and kind of pushed me (forward) to act on them.

Kind of like gaining insight and organizing thoughts is that 4 out of 28 responses reported the power of reflection that they have mastered thanks to the journaling: e.g. "It forces us into a very conscious analysis of the things we learn, resulting in a better understanding of the courses."

4 Conclusions

Assessing creativity remains a challenge. By removing the summative assessment from the creative output and redirect it towards reflection and just experimenting, students and grow their creative ability and skills. Intrinsic motivation and a 'brave space' are essential elements for enabling learning as well as creativity. This makes the learning pact so powerful: the students become more autonomous by customizing there learning objectives and making them relevant for them. It is important to keep on reflection on the learning pact along the way. In addition, it is essential that the connection is made to the actual purpose and learning objectives of the course.

Assessing the journal on quantity only led to very positive experiences by the students. It helped them to build habits, organize their thoughts, gain insights in themselves, and made the more aware of the learning objectives and the course by constantly reflecting and noting down thoughts. If, on top of this, it can be proven that it stimulates the diverging ability and as a result the creative potential, this becomes a must-have in any creativity course.

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