Tercio Creciente

Revista de Estudios en Sociedad, Artes y Gestión Cultural
ISSN: 2340-9096

Monográfico Extraordinario VI

Abril 2022

# Walking the Creativity Tightrope: Teaching students to be appropriately radical

## Caminando por la cuerda floja de la creatividad: enseñar a los estudiantes a ser apropiadamente radicales

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Sugerencias para citar este artículo:

Wiebe, Michelle (2022). «Walking the Creativity Tightrope: teaching students to be appropriately radical», *Tercio Creciente*, (extra6), (pp. 267-279), https://dx.doi.org/10.17561/rtc.extra6.6526

Recibido: 03/08/2021
Revisado: 27/03/2022
Aceptado: 27/03/2022
Publicado: 01/04/2022

DOI: https://dx.doi.org/10.17561/rtc.extra6.6526
Investigación

**Abstract**

Creativity has a significant place in visual arts education (Bastos & Zimmerman, 2015; Katz-Buonincontro, 2018; Kinsella, 2018; Sawyer, 2017; Stone, 2015; Ulger, 2019; Veon, 2014) but an understanding of creativity leads to the recognition that for something to be deemed creative, it must be both novel and appropriate in context (Amabile, 2018; Cropley, 2016; Goetz Zwirn & Vande Zande, 2015; Kaufman & Baer, 2012; Plucker, 2018). While the 'in context' addition to the concept of appropriate, creates more space for visual artists, the constraints of appropriateness remain. For a visual arts and design instructor, this creates tension. How do I encourage students to be creative and push boundaries, yet also teach them to be mindful of the constraints?

This paper discusses observations in undergraduate design education studio classes wherein students learn to use process and thumbnail sketches to push their concepts beyond predictable and into the radical or novel realm. A modified design thinking process provides the structure that allows students to feel confident about exploring ideas. Ongoing feedback from peers and instructor serves to both push and reign in ideas when revisions are valuable. The process requires diligence and practice. It also requires that students work to break free from either/or thinking and view their work on a continuum.

Reflecting on relevant methods for encouraging students to accept the value of novel ideas that also acknowledge the viewer is worthwhile. Encouraging students to recognize

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ISSN: 2340-9096
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that creativity is enhanced through process while also engendering an understanding of the nature of creativity is valuable and can lead to the generation of radical ideas that have merit due not only to their novelty but also to their 'appropriateness.'

**Keywords:** Creativity, Art Education, Design Teaching Processes, Originality, Innovation.

**Resumen**

La creatividad tiene un lugar importante en la educación de las artes visuales (Bastos & Zimmerman, 2015; Katz-Buonincontro, 2018; Kinsella, 2018; Sawyer, 2017; Stone, 2015; Ulger, 2019; Veon, 2014), pero la comprensión de la creatividad conduce al reconocimiento de que para que algo se considere creativo, debe ser novedoso y apropiado en contexto (Amabile, 2018; Cropley, 2016; Goetz Zwirn & Vande Zande, 2015; Kaufman & Baer, 2012; Plucker, 2018). Si bien la adición "en contexto" al concepto de apropiado crea más espacio para los artistas visuales, las restricciones de la adecuación permanecen. Para un instructor de artes visuales y diseño, esto crea tensión. ¿Cómo animo a los estudiantes a ser creativos y superar los límites, pero también les enseño a ser conscientes de las limitaciones?

Este documento analiza las observaciones en las clases de diseño de pregrado en las que los estudiantes aprenden a usar bocetos de procesos y miniaturas para llevar sus conceptos más allá de lo predecible y hacia el ámbito radical o novedoso. Un proceso de pensamiento de diseño modificado proporciona la estructura que permite a los estudiantes sentirse seguros al explorar ideas. La retroalimentación continua de los compañeros y el instructor sirve tanto para impulsar como para dominar las ideas cuando las revisiones son valiosas. El proceso requiere diligencia y práctica. También requiere que los estudiantes trabajen para liberarse de uno u otro pensamiento y vean su trabajo en un continuo.

Vale la pena reflexionar sobre métodos relevantes para animar a los estudiantes a aceptar el valor de las ideas novedosas que también reconozcan al espectador. Alentar a los estudiantes a reconocer que la creatividad se mejora a través del proceso y al mismo tiempo generar una comprensión de la naturaleza de la creatividad es valioso y puede conducir a la generación de ideas radicales que tienen mérito no solo por su novedad sino también por su 'adecuación'.

**Palabras clave:** creatividad, educación artística, procesos de enseñanza de diseño, originalidad, innovación.

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## Proposal

Creativity has a significant place in visual arts education (Bastos & Zimmerman, 2015; Katz-Buonincontro, 2018; Kinsella, 2018; Sawyer, 2017; Stone, 2015; Ulger, 2019; Veon, 2014) but an understanding of creativity leads to the recognition that for something to be deemed creative, it must be both novel and appropriate in context (Amabile, 2018; Cropley, 2016; Goetz Zwirn & Vande Zande, 2015; Kaufman & Baer, 2012; Plucker, 2018). While the 'in context' addition to the concept of appropriate, creates more space

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This paper discusses observations in undergraduate design education studio classes wherein students learn to use process and thumbnail sketches to push their concepts beyond predictable and into the radical or novel realm. A modified design thinking process provides the structure that allows students to feel confident about exploring ideas. Ongoing feedback from peers and instructor serves to both push and reign in ideas when revisions are valuable. The process requires diligence and practice. It also requires that students work to break free from either/or thinking and view their work on a continuum.

Reflecting on relevant methods for encouraging students to accept the value of novel ideas that also acknowledge the viewer is worthwhile. Encouraging students to recognize that creativity is enhanced through process while also engendering an understanding of the nature of creativity is valuable and can lead to the generation of radical ideas that have merit due not only to their novelty but also to their 'appropriateness.'

## Understanding Creativity

Teaching students about creativity and increasing their creative capacity is challenging without a clear understanding of what creativity is. Creativity researchers refer to the difficulty of developing an agreed upon definition (Silvia, 2018) but there is some acceptance that in order to be creative something must be both novel and appropriate (Amabile, 2018; Cropley, 2016; Goetz Zwirn & Vande Zande, 2015; Kaufman & Baer, 2012; Plucker, 2018). Amabile (2018) suggests that in the arts appropriate has a different meaning than it does in the sciences and that "work is generally considered creative if it is novel and expressive of something, evoking a reaction (or range of reactions) in observers that the artist intended" (p. 1). Yet another artistic view of creativity suggests that it is "the capacity to identify a problem and then to use imagination, skill, knowledge, empathy, and intuition to arrive at a novel and effective solution" (Pariser, 2015, p. 109). In her study of art teachers, Stone (2015) found that there were conflicting perspectives on creativity and that there was a lack of consensus about the definition of creativity amongst the art educators she surveyed. In addition to conflicting definitions of creativity, Rubenstein et al. (2013) also noted that teachers were varied in their understanding that creativity can be taught.

A further refinement in developing an understanding of creativity arises from recognizing that there are two ways that creative ideas can emerge. Shifts can occur either incrementally or radically with the two being distinct. Typically, creating art involves a certain amount of incremental creativity because creating art often involves subtle shifts and new approaches (Jaussi & Randal, 2014). Radical creativity involves dramatically different and new approaches and therefore involves greater risk. Incremental creativity is linked to extrinsic motivation whereas radical creativity is more closely tied to intrinsic motivation (Jaussi & Randal, 2014; Malik et al., 2019) and this further highlights the need

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for students to feel that they can experiment widely. Both types of creativity are important and engaging in radical creativity at the outset may help students employ incremental creativity as they refine their ideas since radical creativity is seen to be important during the early stages in problem-solving (Malik et al., 2019).

Radical creativity necessitates letting go of previous ways of doing things and searching for completely new approaches (Tang & Nauman, 2016). Tang and Nauman's study showed that both incremental and radical creativity were increased when individuals had a strong sense of being a part of a group and this highlights the need for interaction amongst students as they work. It also highlights the need for a class environment that honors risk taking and values radical experimentation at appropriate phases of the process.

## Busting the Myths

Teaching students to be appropriately radical challenges commonly accepted creativity myths. Quite apart from students who believe being creative means doing whatever takes their fancy, many also believe that you are either creative or you are not (Burkus, 2014: Cropley, 2018) or that creativity cannot be learned or developed. This extends to educators who believe that they cannot nurture creativity and/or train students to develop creative habits (Cropley, 2018; Stone, 2015). Another creativity myth that has held sway since it was first promulgated by the Greeks, is that creativity arises from divine inspiration (Burkus, 2014). Creativity research demonstrates that the belief in inspiration is faulty and that creativity requires learning, practicing and developing (Amabile, 2018; Baer, 2016; Cropley, 2016; Cropley, 2018; Kim, 2019; Levenson & Hicks, 2015; Plucker, 2018; Ulger, 2016; Veon, 2014; Zimmerman, 2009). Creativity involves sophisticated thinking that can be taught and that not only needs to be taught but also needs to be valued, and practiced (Baer, 2016; Veon, 2014). This suggests that it is necessary and advantageous to provide students with the skills that will allow them to attain their creative potential. Practice increases creative capacity and enables the expression of creative ideas (Levenson & Hicks, 2015).

## Getting over the fear of Failure

Schools are not designed to help students accept that failure is part of learning (Hannigan, 2018) but to function as artists, students need to learn to embrace the value of failure. A willingness to experiment and to take risks can be a valuable component in creative discoveries (Eby, 2017, Madjar, et al., 2011) and learning to accept that being creative means welcoming failure takes time and practice. Hannigan (2018) suggests that teacher modeling can be influential in demonstrating a willingness to take risks as being integral to creative art making. The Design Thinking framework discussed here provides room for teacher modeling and also creates a structure in which experimenting widely is part of the process and therefore seen as valuable. This helps to mitigate student trepidation about stepping into the unknown.

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**Learning to use a process** (Burkus, 2014; Runco, 2018)

A commonly held belief about creativity is that using a process will constrain the flow of creative thought. In fact, Hambeukers (2019) says designers and artists tend to believe that a process or imposed structure will limit their creativity but this runs counter to the history of creativity research, which contains many references to creative process models. Lubart (2018) explains the nature of the creative process as a sequence of thoughts and actions that contribute to the production of a creative work. The word sequence implies a series of events that take place over a period of time and typically have an end point (Lubart, 2018). Botella (2018) proposes six stages that include: idea or vision; documentation and reflection; first sketches or initial models; a period of testing the forms; creation of provisional objects or drafts; and evaluative judgements (pp. 55-56).

When artists work creatively, they may not work in a linear fashion but often loop back and forth (Botella, 2018). The Design Thinking framework with which students worked served as a means to encourage them to develop ideas for their art via an approach that provided incentive to experiment widely in the early stages of their work and then continue to refine those initial concepts as they went on. At the outset, students were encouraged to follow the framework closely so that they could internalize the behaviors that would contribute to creative idea generation. The long-term goal is to have students gain awareness of the value of each step and learn the design thinking process well enough to move fluidly through each phase

The Design Thinking framework aligns with other creative process models because both involve generating and evaluating ideas (Ellamil et al., 2012). Students were able to internalize the design thinking process and used it to encourage the use of approaches that exist in creative endeavors. The process also supports the students who shy from risk because it promotes stages of radical creativity followed by reflection and revision. The radical thinking is part of the process and therefore is more approachable for those who would otherwise stick to the known and safe. It can be exciting for students to feel the freedom of freely exploring 'wild' ideas knowing that they will also have ample opportunity to work with those ideas to hone and refine them.

## Being Reflective

There is a complex relationship between reflection and creativity although research shows that the two are connected (Barr et al., 2015, Corgnet et al., 2016, Sowden et al., 2015). In his 2004 paper entitled 'Teaching College Students to be Creative', Sternberg proposes that anyone can be creative but they have to make the decision to do so. One of the steps he proposes is that ideas must be analyzed because not all ideas are great. Some of the complexity lies in finding a balance between thinking radically and reflecting on the ideas that are generated. If you think too much, it can hamper your creativity (Corgnet et al., 2016).

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There is value in interacting with others while working creatively (Amabile, 2018; Lubart, 2018) because it can help to refine ideas and also provide new ideas. The Design Thinking framework encourages community and therefore allows students to practice learning from feedback and interaction.

## Thumbnails, sketching and initial concepts

Thumbnail sketches or other simple planning sketches are a useful way to draft ideas freely without feeling constrained. Wang and Yang (2015) found that designers who used 'random idea sketches" to generate concepts were able to create more innovative designs. The strength in the 'thumbnail' process is that it provides the opportunity to generate many ideas rapidly without an over-investment of time. It is precisely because quick sketches are not constrained that they are so valuable.

Class organization that values these quick sketches is key. Although some students are willing to dive in and test ideas, many require encouragement to try ideas that appear to be outside of the norm. If student work is structured such that radical ideas are both acknowledged and awarded, students are more likely to invest in generating novel images. As the class progresses, and students see the value of radical thinking in their own work, organized incentives are less necessary.

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## Prototyping

Prototyping is seen as an integral element in the design process (Bergland & Leifer, 2013; Camburn, et al., 2013) although it is not always a term used in visual arts education. It is, however, a very useful tool for teaching students to refine the ideas that they came up with in their initial thumbnail sketches and thereby move from their radical experimental concepts and employ more incremental creativity. The process encourages students to spend time with their ideas and therefore potentially work with concepts that push into unfamiliar territory. Nelson & Menold (2020) describe a prototype as a physical design representation that does not have to have high fidelity but functions to test ideas and answer questions. This is an important distinction for students who want to make mini-me representations of their proposed concepts so that they can replicate the image in their final work. As they learn to work with the process, students need to remember that prototyping is an essential part of the development cycle and that it can increase the creativity of their work because the step pushes them to be critically reflective and refine their radical ideas. The prototype assists in idea development precisely because it encourages the artist/designer to converse with the concept they have created as well as converse with others about their ideas (Bergland & Leifer, 2013). It is through a dialogue with the ideas that new directions can be developed. Although it is easy to think of prototypes in terms of product or engineering design where a prototype is often a three-dimensional model, it is also meaningful in art to consider a more refined rough work as a prototype for the

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final image. It is reasonable to consider a drawing or even a partially coloured half size rendition of the proposed work as a prototype. Another benefit of prototypes is that they can and should stimulate reflection (Bergland & Leifer, 2013). Prototypes can be seen as drafts that bring concepts to life thereby making it possible to reflect on actual images.

## Being appropriately radical

Radical creativity necessitates letting go of previous ways of doing things and searching for completely new approaches (Tang & Nauman, 2016). Tang and Nauman's study showed that both incremental and radical creativity were increased when individuals had a strong sense of being a part of a group and this highlights the need for interaction amongst students as they work.

Radical creativity is distinct from incremental creativity. Typically, creating art involves a certain amount of incremental creativity because creating art often involves subtle shifts and new approaches (Jaussi & Randal, 2014). Radical creativity involves dramatically different and new approaches and therefore involves greater risk. Incremental creativity is linked to extrinsic motivation whereas radical creativity is more closely tied to intrinsic motivation (Jaussi & Randal, 2014; Malik et al., 2019) and this further highlights the need for students to feel that they can experiment widely. Both types of creativity are important and engaging in radical creativity at the outset may help students employ incremental creativity as they refine their ideas since radical creativity is seen to be important during the early stages in problem-solving (Malik et al., 2019).

## The Design Thinking framework

Students were presented with the Design Thinking framework (Figure 1) at the start of the course. The introduction to design thinking not only incorporates a short class discussion on the value of following the framework, but also stresses the value of community feedback throughout. Community here refers to the community of learners in the class. Students are encouraged to gain understanding of the art challenges they may face as they strive to realize their concepts. Gaining understanding often involves looking at the work of others, as well as considering materials, media and techniques. Idea generation at this point is to be as radical as possible without too much concern for practical realities although moving on to prototyping requires consideration of what is possible. It is interesting to note that this was often the point when students began to behave very creatively as they had to wrestle with the juxtaposition of their ideas and pragmatic reality in terms of what was practically possible. The bounds of gravity, material availability, and budget often impose a measure of appropriateness without any other intervention.

The teacher is placed at a central point in the framework particularly at the beginning of the process as students are learning to generate ideas within the bounds of the framework. Regular guidance and direction also provides the opportunity to relieve concerns as students grapple with ideas that they feel are too risky.

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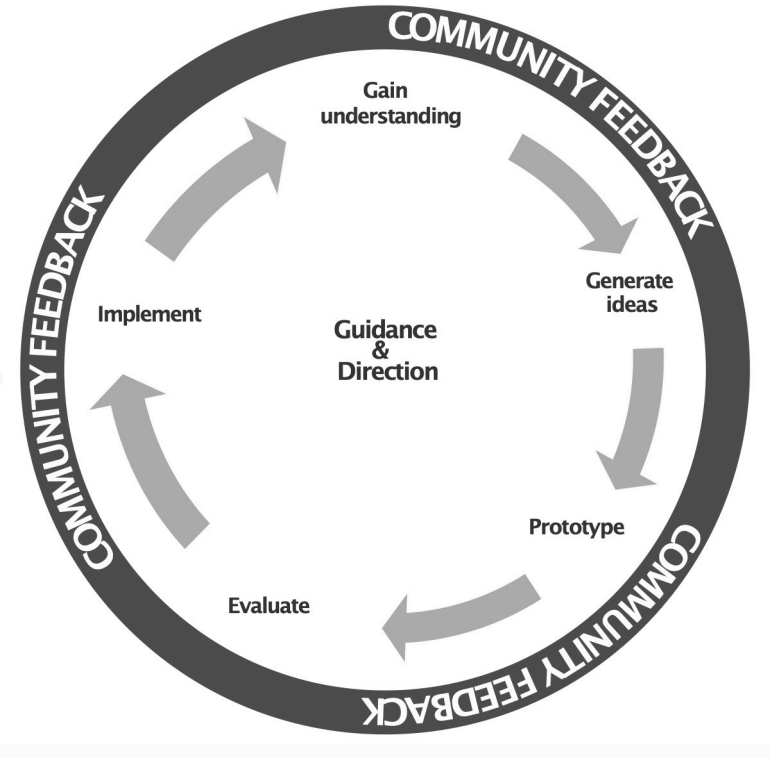


Figure 1 – Design Thinking framework

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## Reflections on the framework in action

During the first attempts to use this approach at the start of the semester, students were tentative but then they became bolder as the course progressed. Some were more willing to take risks than others and this remained fairly constant. An interesting observation was that groups working on class exercises during class time were often very willing to generate radical ideas in their planning sketches and those ideas frequently turned into work of high quality. The class exercises were low risk for the students, they bounced ideas back and forth freely and the of the design challenges that they were given were developed to have an element of fun inherent.

Student groups were not assigned but were fluid in both size and composition. This meant that the students who naturally gravitated to radical thinking had a chance to infect others with their willingness to try things. As a result, many students who were naturally more tentative were able to observe how much the radical thinking advanced their ideas. This filtered into their personal work as well. Thus, the best practice for trying radical creativity at the outset of planning was providing students with low stakes projects that they were able to complete while working in groups.

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## Example of a Class exercise

One class exercise challenges students' to create persuasive posters for a chosen audience. The focus of the poster is to convince the chosen audience that hand washing prevents disease. The project sheet not only provides information on the value of handwashing from the World Health Organization (W.H.O.) website but also requires that students generate 10 thumbnails including 4 that represent radical ideas. The thumbnails are discussed in the group and then students choose the idea or ideas that they wish to pursue. There is a class discussion on the merits of combining ideas to generate even more novel approaches. Once the group has decided on an approach that they believe is workable, they develop a half size rendition of the composition to test colours and spacing. Then the group sets to work creating a poster.

## Final thoughts

Student willingness to generate radical ideas in their work increases as the course progresses and this results in more creative solutions to the design challenges with which they are tasked. When students perceive that the project is high stakes, they are less willing to take chances with radical ideas. As the course progresses, however, and they observe the value gained from trying radical ideas in the planning stages of their work, students become more and more willing to experiment. The result is increased student satisfaction because they know that they are generating novel and effective compositions.

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Investigación

Tercio Creciente

Revista de Estudios en Sociedad, Artes y Gestión Cultural
ISSN: 2340-9096

Monográfico
Extraordinario VI

Abril 2022

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