

Building creative confidence: A review of literature and implications for beginning design studios

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Introduction

Creativity is an ability that most people believe that they are either born with or without. The problem with this view is that those who believe they were not born creative, inherently also believe that there is nothing they can do about it. However, we are all born with the ability to think creatively (Nicholls, 1972; Sternberg & Lubart, 1995; Plucker & Dow, 2010; Cropley, 2011; Treffinger et al., 2012). Arguably, it is what separates us as humans from other species (Robertson, 2016). Unfortunately, for many of us, our creativity gets culturally suppressed through our educational and life experiences. We get out of practice and eventually believe that we are not creative. If we don't have confidence in our ability to think creatively, we may never come up with the novel solutions to problems that our society and our professions face.

Design students need to learn the attributes of creative thinkers to problem solve and think critically about issues (Cropley, 2001). Without designers who have the confidence and tools to approach problems in new and novel ways, our professions cannot innovate and move forward. Therefore, it is essential to build student confidence in creativity so that students will have the courage to face unanticipated and difficult challenges as they enter the workforce, arming them with resilient job skills actively sought by employers (Cropley, 2001).

Literature

Modern psychological research on the subject of creativity began sometime in the 1950's, focusing mainly on the individual. By the 1980's and 90's, researchers started to look at how context, primarily in organizations affected creativity (Amabile et al., 1996) which led to a burst of creativity research with creative confidence emerging in just the past couple of decades (Hennessey & Amabile, 2010). Of all of the research done on creativity, little has been written on building confidence to think creatively in beginning design studios. The results of looking broadly at the literature on creativity and creative confidence can be summed up by saying that creativity is based on a system of things. No one single construct can account for creative behavior (Csikszentmihalyi, 1997; Hennessey & Amabile, 2010).

This paper attempts to identify aspects of this system as foundations of creativity. Knowing these foundations can give us an awareness of where and how to improve our student's skills. Depending on our past experiences, culture, and attitude, we all have different levels of competence and confidence in our ability to think creatively. (Sternberg & Lubart 1996; Westberg, 1996; Dow & Mayer, 2004; Kelley & Kelley, 2013). This paper also identifies findings from the literature that can be used to develop a studio context that supports student confidence while also identifying practical tools to enhance creativity that can be incorporated into beginning design studios. I begin by defining creativity and providing an overview of the foundational research on creativity. Cultivating a beginning design studio culture that enhances creative confidence will be discussed followed by the tools for encouraging creative idea generation.

Definitions

Creativity is most commonly defined as the ability to produce outcomes that are both novel and appropriate (Nicholls, 1972; Treffinger, Schoonover & Selby, 2012; Amabile, 1996; Sternberg & Lubart, 1995; Plucker & Dow,

2010). In this paper, the concern is with building creative confidence in design students and techniques that reinforce thinking creatively. It is often suggested that creative outcomes be assessed to judge if tactics to increase creativity are working. Simonton (1984) and Amabile et al. (1996) argue, however, that assessing the outcomes of creativity is too subjective, often reflecting a student's ability to communicate rather than display their creativity and that a product is only creative to the extent that others independently agree that it is creative. This research is not concerned with creative products but rather increasing a student's confidence in thinking creatively. If we can teach students to be confident in their approach to creativity, creative products are likely to follow.

Foundations of Creative Thinking

As previously discussed, creativity is a system of things that depend on a student's capabilities, pressures, resources, social system, etc. (Csikszentmihalyi, 1997). This system of creative components, based on foundational ideas about creativity, when operating on ideal levels, should provide the foundation needed to expand our creative potential. See Figure 1 for the contributing factors related to creativity. Based on the literature, the contributing factors described in this section were identified as making up the foundations of creative thinking.

1. Personality

Personality traits may be one of the more difficult components of creativity to transform. Research shows that the main limitation on what students can do is what they think they can do (Sternberg, 2010). One of the biggest hurdles in teaching students to think creatively is getting them to believe that learning creativity is possible. They need to believe that their capabilities are not set in stone (Kelley & Kelley, 2013). Often, our existing confidence in creativity comes from our personality, attitudes, and beliefs. Yeager & Dweck (2012) found that students who believed that their personality traits and abilities could be developed showed higher achievement in school. The concept of having a growth versus a fixed mindset makes a marked difference. People with a growth mindset see prospects for doing things better and want to change them (Kelley & Kelley, 2013). On the other hand, people with a fixed mindset are not open to change and are not likely to improve their ability to think creatively. Most creative people have growth mindsets.

Sternberg & Lubart (1995), also describe a creative personality as someone willing to take chances, willing to stand out and take a stand. Csikszentmihalyi (1997) describes personal characteristics of creative people in group environments as having an open and positive attitude toward novelty, accepting of personal differences and willing to reward divergence. Copley (2001), agrees that creative personality traits include openness, self-confidence, and flexibility. Creative people often also possess a sense of humor that can help them to avoid self-doubt (Sternberg & Lubart, 1996).

Another personality issue affecting creativity is the urge to conform. Conforming comes up frequently in creativity literature (Sternberg & Lubart, 1995). It is difficult to be creative when you are trying to conform. Culture is constantly telling us to conform. A study by Sternberg in 1999 found that children show less and less spontaneous creativity in their thinking as they progress through school (Sternberg, 1999). Society often rewards people for conforming, practically brainwashing most of us into convergent thinkers. It is not uncommon for education to reward students who stand in line, raise their hands and do what they are told (Sternberg & Lubart, 1995). This system does not reward students for creativity. Conformity has been socialized through everything we have been throughout our lives. Yet, we are often perplexed at the lack of creativity most people can display (Sternberg, 2010).

Unlearning conformity can be tricky. It requires letting go of comparison and not letting self-worth be affected by how others view our ideas (Kelley & Kelley, 2013). Personality traits may be challenging to change but merely convincing students that changing their creative potential is possible can help boost confidence.

2. Knowledge and experience

Having knowledge about a subject and experiences to draw from is also a key to being able to come up with novel ideas. However, knowing just enough is critical. If you know too much about a subject, your thinking becomes fixed, and you are less likely to come up with a creative outcome. Yet, knowing too little about a field in which one hopes to be creative can also make it difficult (Kelley & Kelley, 2013; Sternberg & Lubart, 1995). Sternberg & Lubart (1995) point out that you can't accept what is normal unless you know what the accepted is. The key is to know enough about a subject to have a good foundation of knowledge yet be willing to see past it and look at it in a new way (Sternberg & Lubart, 1995). Experiences also affect creativity. If one has a vast amount of experiences to draw ideas and inspiration from, the more creative their ideas are likely to be. Creative people seek new and different experiences that often spark their creative thinking (Kelley & Kelley, 2013).

3. Motivation and curiosity

Believing in the value of what you are doing and doing what you enjoy increases creativity levels (Sternberg, 2010). Research by Amabile et al. (1996) demonstrated that when people are motivated to do a creative activity, they are more likely to be creative than when working toward a goal imposed by others.

The idea of intrinsic motivation versus extrinsic motivation was studied in depth by in the 1990's (Amabile et al., 1994, Amabile et al., 1996, Amabile, 1998). Intrinsic motivation or motivation initiated by oneself is positively related to creativity. When there is expressed interest in an activity, creativity is likely to excel. Extrinsic motivation can be defined as motivation induced by others. Constraints placed on the tasks needed to participate in that activity have negative effects on creativity (Amabile et al., 1996). Unique ideas do not come from people who hate what they are doing (Sternberg & Lubart, 1995). Projects that students have a hand in creating and a choice in what they work on can help encourage intrinsic motivation. These projects can help students be more energetic and productive and have the potential for unique outcomes.

4. Risk-taking and Failure

Risk-taking and failure, which go hand in hand, are other critical factors of creativity. Getting students to feel comfortable, take risks and lessen their fear of failure can help to build their confidence. Failure can be a powerful creative deterrent. In fact, Kelley & Kelley in their book *Creative Confidence* (2013) claims that failure is the biggest obstacle to creative success. This fear can range from a fear of being judged to a fear of the unknown or a fear of living up to some standard as often found with people who have already experienced some successes in creative pursuits (Amabile et al., 1996). Studies of creative people, once again have shown that creative people fail a lot, they just don't let it stop them (Kelley & Kelley, 2013; Amabile et al., 1996). Creative people take more chances or do more experiments in general, so they also tend to experience more success. The main takeaway from failure should be to learn from it and figure out what to do better next time. Acknowledging mistakes is vital for moving on and improving, but more importantly, it can help develop personal resilience, courage, and humility, which are essential in developing confidence.

5. Social and contextual components

Social and contextual factors are also a crucial foundation in the system of creativity. If we are aware of the powerful social factors that influence or hinder creativity in the studio, instructors can begin to try to influence these forces positively. These can be broken down into time, support, group experience, and judgment. Research shows that having sufficient time to do projects positively affects creativity. Amabile et al. (2005) found that when most people are given less time to think creatively and explore ideas, they were less likely to come up with creative outcomes. Receiving supportive feedback on work performed can also result in more creative outcomes according to a study done in 2001 by Zhou & Oldham. Zhou (2003) found that feedback that contains helpful information for improving ideas resulted in higher levels of creativity but also found that the important part was in how that feedback was conveyed to the student.

Perhaps the single most significant contextual factor affecting creativity and the most studied are the social factors concerned with judgment (Amabile, 1983; Amabile et al., 1996; Cropley, 2001; Kelley & Kelley, 2013). Creativity is often squelched by a fear of evaluation or competition, which often affects one's willingness to take risks (Amabile et al., 1996). The fear of being judged or criticized too harshly is not something that people are born with. In fact, most of us were born unafraid of using our imagination and unafraid of what others think. However, many people can think of a time when they were criticized too harshly or told that they were not talented at some activity in which they were trying to be creative. This experience, often called a 'creativity scar' can make people withdraw and give up on trying to be creative (Kelley & Kelley, 2013).

Getting past the fear of judgment can be difficult. In design professions and studio work in general, creativity and idea generation often happen in group settings. Therefore making creativity less inhibitive in groups is necessary. Providing examples of what is acceptable in group or studio settings and how groups can work together toward desirable outcomes can lead to greater comfort in sharing ideas (Shalley & Gilson, 2004).



Figure 1. Foundations of Creativity

Cultivating a Creative Studio Environment

We now understand the variety of factors that influence creativity but how can these factors be used to come up with a framework for implementing practical ways to boost creative confidence in a beginning design classroom? Several sources suggest practical implications for boosting creative confidence in a studio environment and giving students useful tools to encourage creative ideas. The following sections reveal strategies to help build confidence in beginning design studios.

The studio culture, whether intentional, cultivated or not affects student creativity levels. The structure of the studio communicates whether students will feel safe in breaking with the status quo or not and whether blame, punishment or embarrassment will result (Shalley & Gilson, 2004). Creating a studio climate that encourages creativity involves providing a social environment that is accepting of differences, is open and tolerant of variability, lacks stiff penalties and actively encourages creativity (Cropley, 2011). Social factors that influence

creativity act on a variety of levels and scales. Recognizing what those factors may be and making the context for thinking creatively as comfortable as possible can help build creative confidence. See Figure 2 for the aspects of a creative studio environment identified in the literature.

1. Reward courage

Intuitively, instructors tend to reward students for being correct. It takes deliberate intention to try to recognize and reward students for courage and for coming up with new and novel ideas, especially if the new and novel ideas seem absurd or unrealistic. However, if we recognize students who take bold risks, even if the risk is not successful in the end, we can begin to build student confidence in creativity (Kelley & Kelley, 2013; Higgins & Reeves, 2006). To be clear, this is not to say that constructive feedback should not still be given but applauding students for having unique ideas can still be done in tandem. It is also critical to recognize students who are trying to conform and call them out on it. Pointing out when students are not courageous can be just as motivating.

2. Minimize Fear of Failure

The sooner students fail, the sooner they will learn from it. Kelley & Kelley (2013) recommend setting students up for a series of successes by completing multiple quick design projects without substantial consequences for failure to build up their confidence. These projects should be designed to inspire students to take risks that have low stakes. This way, students are more likely to learn from any failure and own it. They must acknowledge their mistakes to figure out what went wrong and how they can make it better.

3. Teach creatively

Another method for encouraging creative confidence in studio is to serve as a role model by teaching creatively. Show them how to be creative by being creative with them. Teach creatively and push yourself out of your comfort zone. Teach them how to think across disciplines and make sure they are given time for creative thinking (Sternberg, 2010).

4. Avoid harsh critique

There is a difference between giving constructive criticism and being harsh or destructive. You can acknowledge that some ideas are better than others however it's more useful if you can explain why. New approaches to bad ideas should also be suggested. Although, it can be important to retain some aspect of the original idea but suggest a new approach. Explaining why something needs work without acknowledging the work already done can come across as harsh or destructive (Sternberg, 2010). Other suggestions for avoiding harsh critique would be to look for positives or strengths first, then consider limitations and use language such as "How might you..." (Treffinger, Shoonover & Selby, 2012). Nurturing a studio culture that is not too harsh, models creativity and encourages independent and creative thinking can influence higher levels of creative confidence.

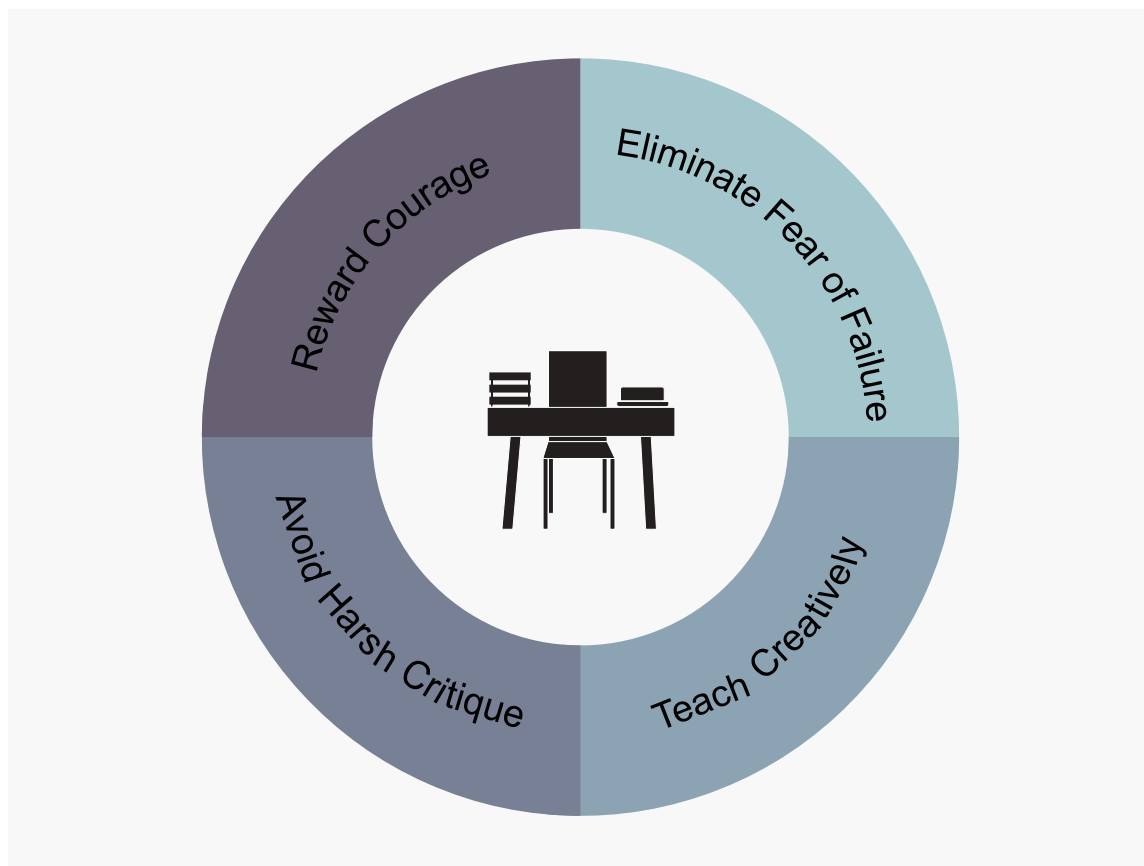


Figure 2. Creative Studio Environments

Tools for Idea Generation

Throughout the review of the literature, practical implications for improving creative ideas and confidence were discovered. These practical techniques were assessed and compiled into a toolbox that can be used in project assignments and teaching pedagogy to increase student confidence and the likeliness of creative ideas. This section focuses on the results of that assessment.

1. Foster Creative Habits

Creative people make creative thinking a daily habit. Encouraging students to practice habits that facilitate creativity regularly can instill a greater sense of creative confidence. To make creativity a habit, students need regular opportunities to be creative, encouragement in coming up with creative ideas and rewards for coming up with creative outcomes (Sternberg, 2010). Repeating this process can help students to build confidence. An example might be to assign a weekly sketchbook activity that tells students what to create. These assignments should be able to be repeated in some way so that the habit established during the course can easily be kept up after the course ends.

2. Brainstorming Abundance

Students should be encouraged to generate many ideas, regardless of whether their ideas are good or bad. Brainstorming a large number of ideas quickly and without judgment can lead to more creative outcomes

(Sternberg, 2010). Treffinger, Schoonover & Selby, (2012) note that their experience in the field shows that first ideas are often at the surface of your thinking and that likely, your best ideas will come after multiple possibilities are explored. The beauty of keeping numerous concepts alive longer is that it encourages honest feedback about ideas and gives all ideas equal consideration (Kelley & Kelley, 2013). The other benefit of producing a large number of ideas is that students are less likely to become possessive of the idea and fiercely defend it. That scenario is more likely to happen when there are only a few ideas. When ideas are abundant, there is no need to get territorial about them because there are more ideas where the others came from (Kelley & Kelley, 2013). The key to generating many ideas without getting possessive also depends on deferring judgment about those ideas. No praise or criticism should be mentioned when brainstorming initial ideas. Judging anyone's ideas could deter others with good ideas from speaking up (Treffinger, Schoonover & Selby, 2012). All ideas should be listed and considered even if they seem outrageous. It is easier to tame a crazy idea than it is to make a boring idea exciting (Isaksen & Aerts, 2011; Treffinger, Schoonover & Selby, 2012).

3. Introduce empathy

Kelley & Kelley (2013) talk about introducing empathy as a way of connecting with the needs and motivations of end users. In a beginning design studio, therefore, incorporating projects that include an element of empathy could help facilitate idea generation. Through empathy, students start to see how their designs could become useful to solve a specific problem for someone.

4. Look Outward for Inspiration

Exposing students to the work of others can help to inspire new ideas. As previously mentioned, having knowledge and experience to draw from helps creative thinking. Many students may be young and not have many life experiences to draw from so encouraging them to start paying attention to and collecting things they love can help with this. As Kleon (2012) says, "All creative work builds on what came before." The idea of borrowing from others, then making it your own can help free students from the weight of feeling like they have to be completely original (Kleon, 2012).

5. Idea Combinations

Remixing is an excellent way to make creativity more accessible to beginning design students. This idea of looking for inspiration from others and making it your own by remixing it is prevalent in all forms of creativity (Kelley & Kelley, 2013). Taking two or more unrelated items and mashing them up into one new product is a tool that often results in unique ideas. When students are given assignments that encourage the mixing of themes or ideas, they are often pleased with how creative the results are which helps them feel more confident in their ability to think creatively.

6. Relaxation

Incorporating relaxation, play or time for daydreaming into a studio class project can be another tool for stimulating creative ideas and making creativity more accessible and enjoyable. Our brains often work on ideas or solutions to problems when we relax or when we daydream (Robertson, 2016). We are more likely to make unlikely connections between ideas and experiences when we are relaxed and not focusing on a specific task (Baldwin, 2010). Listening to music, going for a walk, dancing to a favorite song can all be good things to do before a brainstorming or creative studio session (Kleon, 2012).

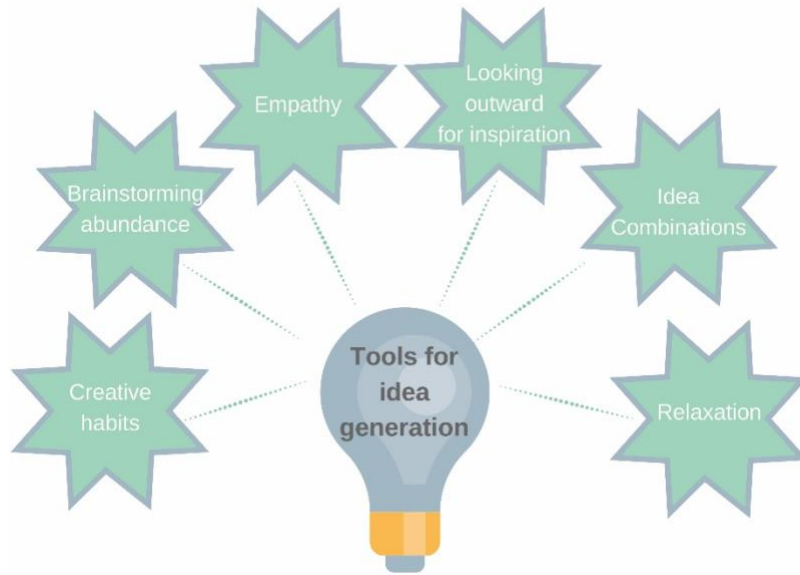


Figure 3. Tools for idea generation

Conclusion

Creativity doesn't just come from nowhere. It is a system composed of several attributes which form a foundation for creative thinking (Woodman, Sawyer & Griffin, 1993; Sternberg & Lubart, 2010; Csikszentmihalyi, 1999). When we can recognize and work on attributes that contribute to creativity and give students practical tools for coming up with creative ideas, their confidence builds, and their solutions are likely to get better. Future research should include implementing these changes in design studios to see if students are more willing to take risks and feel confident as a result.

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