# MEDITATE TO CREATE: MINDFULNESS AND CREATIVITY IN AN ARTS AND DESIGN LEARNING CONTEXT

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**Abstract.** Given the applied nature of creativity in the arts and design, it is important to understand the conditions and practices that support it. Most research suggests that ideal conditions for creativity are often mental and emotional – involving relaxed, yet alert and focused, states of mind. This article explores the connection between mindfulness and creativity in the experiences of students in a college of arts and design, through a mindfulness teaching practice to support creative processes. In a "scholarship of teaching and learning" inquiry, we consider how mindfulness practice may affect arts and design learners' feelings about their own creativity. Students in a large United States university school of arts and design practiced mindfulness meditation for several months, and submitted a written reflection on their experience. We qualitatively analyze this to consider how mindfulness supports creative practices in arts and design learners' education. Our findings involve three key themes, which are: "Processing anxiety and negative feelings", "Focusing the mind", and "Managing the 'Voice of Judgment'". These thematic findings reflect how arts and design students perceive the effects of mindfulness on their creative process. We offer implications for teaching practices related to mindfulness meditation practice aimed to support learners' perceptions of their creativity.

**Keywords:** arts and design, college students, creativity, meditation, mindfulness.

## Introduction

Given the applied nature of creativity in fields like the arts and design, it is useful to understand the factors that support creativity. Much research suggests that ideal conditions for creativity are often mental and emotional – involving relaxed, yet alert and focused, states of mind (Csikszentmihalyi, 1996). By contrast, states of anxiety, emotional upheaval, or negative stress can narrow one's imagination and openness, inhibiting creativity (Sharma, 2014). In this article, we focus on the utility of mindfulness to support creativity and creative processes. Specifically, our purpose is to understand if and how mindfulness supports or affects learners' perceptions of their creative process. We examine this in a higher education context with arts

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and design students. This work considers mindfulness as a method of and tool for creative education when embedded in classroom practices.

Mindfulness is defined as a state of "nonjudgmental, moment-to-moment awareness" (Kabat-Zinn, 1990, p. 2), or the ability to be fully present, aware, and not overly reactive, judgmental or overwhelmed by the surroundings. Mindfulness practice has been applied within fields such as psychology, physiology, healthcare, medicine, and in everyday life and well-being. While research has studied its potential to regulate stress and improve cognitive, emotional, and interpersonal functioning, mindfulness also relates to creativity (Kropp & Sedlmeier, 2019; Sedlmeier et al., 2012). Creativity is often defined as the process or ability to devise or develop ideas, solutions, products or artifacts that are novel (*i.e.*, original, new, or fresh) and effective (*i.e.*, valuable, useful, or successful) (Runco & Jaeger, 2012). While creativity is often referred to as a skill to solve problems, or a marketable ability, it also connects with well-being (Goff & Torrance, 1991).

The tension between creativity's instrumental aims and its human-centred purpose is foregrounded in fields such as design and the arts. Artists and designers are often drawn to creative careers for self-expression and fulfillment – yet they experience pressure to hone their skills in order to succeed, market or sell their work, and make a living. Furthermore, learning environments in arts and design colleges are often rigorous and stressful – utilizing studio models and public critiques, where criticisms can be exacting and stressful, which can encumber creativity (Dannels & Norris Martin, 2008). For students in these learning settings, it is important to consider mental practices or conditions that support creativity and well-being – such as mindfulness.

This article explores the connection between mindfulness and creativity in the reflections of students in a college of arts and design, through a scholarship of teaching and learning inquiry into students' perceptions about how mindfulness practice affects their creative process.

The participants were undergraduate students in a large United States (US) university school of arts and design, taking a semester-long course aimed to support their creative processes. They practiced mindfulness meditation throughout the semester, and submitted an open-ended reflection at the end, which we qualitatively explore to understand their perceptions of mindfulness as related to their creative processes.

As follows, we provide background on mindfulness, then review the literature on the relationship between mindfulness and creativity, as well as the role and meanings of creativity in arts or design fields. We then describe the context for this study. Finally, we share findings and implications, based on three themes emerging from learners' experiences with mindfulness meditation and creative process. These themes include: "Processing anxiety and negative feelings" to reduce impediments to the creative process, "Focusing the mind" to be more open to ideas and concentrate; and "Managing the 'Voice of Judgment'" to allow more productive creative work.

## 1. Literature on mindfulness and creativity

In reviewing the literature on mindfulness and creativity, we first provide background about mindfulness. Then in the subsection following, we examine the relationship between mindfulness and creativity.

## 1.1. Background on mindfulness

Mindfulness (directing attention to the present moment with non-judgmental awareness), is frequently associated with meditation, a formalized practice to build present-moment awareness. We use the terms mindfulness and meditation interchangeably, because meditation is the practice by which mindfulness is trained. The Greater Good Science Center, at University of California (Berkeley, US) notes that, "Mindfulness means maintaining a moment-by-moment awareness of our thoughts, feelings, bodily sensations, and surrounding environment, through a gentle, nurturing lens" (2020). Yet, while common mindfulness definitions sound simple, it is not easy or intuitive in practice. Practitioners often find their minds wandering into the past or an imagined sense of the future or becoming attuned to unproductive thought patterns.

In Western culture, mindfulness has gained interest precisely because states of distraction, anxiety, and lack of connection to the present moment are both ubiquitous and detrimental (O'Donnell, 2015). As society moves toward more technology-driven, globally-connected and distracted ways of being, mindfulness offers an antidote to internalized unrest. It strengthens the ability to mediate one's states of mind via meditation practices. While practices vary – they often involve sustained focus on breathing, while noticing distractions or thoughts that emerge in consciousness. Over time, as practitioners expand in awareness of their thinking, a distance occurs between the thinker and the thoughts allowing space for people to navigate their thinking in psychologically healthy ways (Bennett & Dorjee, 2016).

This skill, which researchers refer to as dereification (Wielgosz et al., 2019), is more pressing than ever in the needs of young people, such as college students. Research suggests that youth today are increasingly stressed and anxious, which impedes creativity. Ries Merikangas et al. (2011) showed that over 20% of people under 18 encounter mental health problems. These do not always improve or disappear as people enter higher education. In design and the arts, rigorous performance-based studio programs can add further stress, anxiety, and adversity into learners' experience. To thrive creatively, learners' may benefit from the use of mindfulness in educational settings. Mindfulness has been well-established to support creativity by existing research and has been increasingly adapted into learning settings to bolster student well-being.

In addition to mental health promotion and tools for bolstering creativity, mindfulness has become increasingly popular in higher education as a means to promote skills such as interpersonal communication (Kuechler & Stedham, 2018), self-care (Helmer, 2014), stress management and interpersonal skills (McKay et al., 2007), increased capacity for empathy and decreased risk of anxiety and depression (Joss et al., 2020). In the process of teaching these skills as they pertain to future careers, mindfulness has become increasingly embedded in classroom routines. Thus, practice research that explores the effects of these practices in education is important.

Schwind et al. (2017) explored embedding mindfulness content into courses that included a variety of disciplines and undergraduate and graduate students. Both the students and instructors found that they benefited from beginning each class with a brief meditation, as stress and anxiety levels decreased and the class was more focused and respectful. Kuechler and Stedham (2018) created a mindfulness-based experiential learning course within a

Master of Business Administration leadership program to help learners navigate the intricacies of interpersonal and systems dynamics in business practice. They found that students who participated in mindfulness training increased in levels of self-awareness, awareness of others, and became more open to new experiences and engaged in transformational learning. In this study, we explore the effects of mindfulness related to students' perceptions about their creativity.

## 1.2. Relationship between mindfulness and creativity

There is a strong theoretical basis for presuming a relationship between mindfulness and creativity. Both are broad constructs connected to emotions, attention, stress, and awareness of the self and the world (Baas et al., 2014). Studies show that mindfulness may decrease fear of judgment and enhance open-minded thinking, while reducing self-conscious thoughts (Sedlmeier et al., 2012). These factors relate directly to creative thinking habits, including: relaxation or flow states (improved concentration), risk-taking (requiring a lack of fear about judgment), and curiosity or open-mindedness/openness to experience (reducing self-conscious experience) (Prabhu et al., 2008).

Mindfulness also supports creative habits of mind – such as increased empathy and open-mindedness (Kinsella et al., 2020). Mindfulness training increases a person's capacity to respond to situations in a non-habitual fashion – which is at the crux of creativity (Moore & Malinowski, 2009). The way that mindfulness reduces fear of judgment is conducive to creativity, as is the improvement of working memory (Chiesa et al., 2011). Experienced meditators have also been found to outperform others at finding novel solutions to problems, and are better at verbal fluency in creativity (Greenberg et al., 2012). Jedrczak et al. (1985) found that regardless of the length of practice, meditation appears to have a positive effect on creativity. Byrne and Thatchenkery (2019) note that mindfulness training positively impacts a person's creativity in the moment and over time by increasing an individual's level of attention and awareness in daily activities which improves creative outcomes. Specifically, studies have found that aspects of creative thinking are higher in long-term mindfulness practitioners, compared to short-term mindfulness practitioners (Berkovich-Ohana et al., 2017) – noting that mindfulness mediates changes in thinking skills that improve creativity.

Lebuda et al. (2016) hypothesized a positive relationship between mindfulness and creativity. They conducted a meta-analysis of peer-reviewed, quantitative studies with direct measures of both mindfulness and creativity – aiming to measure the relationship between the two and consider the role of moderators. The study estimated the correlation between mindfulness and creativity at r = .22 (r = .18 without correction for attenuation), and found a correlation that was significant but heterogeneous; indicating more between-study than within-study variability. This suggests that creativity does correlate with mindfulness significantly, with a small-to-medium effect size. Although this effect was not moderated by study design, it was generally stronger when creativity measurement was based on insight or problem-solving tasks. This is interesting, given that others (Colzato et al., 2021) have found that certain kinds of meditation improve divergent thinking. Across all the studies Lebuda et al. (2016) examined they found no evidence of publication bias, concluding that the estimation of the relationship between mindfulness and creativity is accurate and robust.

Despite this, there is little research about how mindfulness can be used to support creativity in education settings. Thus, there is a need for more applied research on mindfulness and creativity in learning contexts. Justo et al. (2014) studied these constructs with high school students. Their results showed significantly higher levels of figural creativity in a treatment group that received a 10-week mindfulness intervention, with promising empirical support for mindfulness and creativity in educational environments. Among younger students, Yeh et al. (2019) investigated mindful learning and creativity, through a training program for creativity that measured mindful learning during game-based learning. They found that mindful learning can support creativity within game-based learning; and participating students became more confident in their own creativity competences.

Instances of empirical research studying mindfulness alongside creativity are limited with youth in applied settings. However, some scholars have emphasized mindfulness in young people as a driver of creativity from a theoretical perspective. Fisher suggests that it may be most vital in education:

> "In a materialistic, competitive world they [young people] are subject to many of the same stresses and strains as adults. They are bombarded by an information overload of words, images and noise. They are prey to the frustration and anger of others and often experience negative emotions more deeply and intensely than adults" (2006, p. 148).

Fisher notes that these kinds of stressors are known impediments to creativity, making mindfulness a potentially helpful approach and psychological support for creativity. He suggests that the link between creativity and awareness of one's own mind has long been recognized, going back to the ancient Greeks and Romans, who believed that a quiet mind could help open one to their creative muse. Expanding or opening one's creative potential is particularly important to those entering professional fields in the arts or design, such as the student population in this study.

## 1.3. Creativity in the arts

Fields such as the arts or design encompass a range of visual, performing, and technical arts and design fields. The visual arts include fields such as painting, sculpting, drawing, metal work, photography, and similar others; meanwhile, the performing arts often refer to disciplines such as music, dance, theatre, and other performative arts (Larsen Workmon, 2018). Design as a field is often closely related to the arts, but is often more specifically aimed at how to conceptualize, create, and improve material objects, artifacts or processes. Some examples of this includes architecture, landscape architecture, graphic design, visual communication, industrial design, design psychology, environmental design, and interior design (Larsen Workmon, 2018). There are often some differences in general approach in the arts and design fields – for instance, the arts often seek to inspire or communicate while design is a more purpose-driven creative approach about improving processes, objects, and usage, or creating understanding (Locher et al., 2019). There is a great deal of technical or foundational knowledge involved in creativity and learning in these types of fields, with natural talent involved in creating, interpreting, and communicating creative ideas and thoughts into action (Martindale et al., 2018).

Generally, artists and designers must have good creative, interpretive, and memorization skills. While the creative process itself is often private, interpretative process is more public and collaborative (Harris & Carter, 2021). Public critique and the spotlight are frequent sources of stress for artists or designers whose work is constantly and often publicly evaluated and judged by peers, faculty members, teachers and audiences (Kogan, 2002). Creativity is still often defined in the arts much as in other fields, as the ability or process of creating something that is relatively novel or original and also effective (*e.g.*, in the arts this may be an artifact such as a painting, sculpture, play, *etc.*, which is uniquely beautiful or uses a new style/approach and is quite effective in conveying a message; or in design, it may involve making be a product, process or material object used by consumers or other types of users that is particularly effective and innovative). This pressure to create projects, products or artifacts that have some degree of uniqueness or originality and that impress others with effectiveness, aesthetics, or value, can be a source of stress or anxiety for those in the arts and design.

Larsen Workmon (2018) notes that the arts, in most functional areas, are in some way about performance – wherein practice, training, and competition are central to performance, regardless of specific arts or design areas. Performance can naturally bring some degree of pressure. The ability to recognize, manage, and cope with stress, internally motivate toward optimal performance, and deliberately practice to achieve skill-mastery are common themes with elite artistry or performance (Cooper, 2019). Smith (2005) suggests that teachers and institutions who educate people in arts or design fields should encourage task goals, focused on personal performance, while discouraging ego goals, the goal aimed at achieving at a higher social standing, as much as possible. Guiding elite performers away from ego goals is critical, as Elliot and Church (1997) found that performance and motivation decreases with ego-driven goals. Hence, practices or interventions like mindfulness – which decrease overt focus on the ego or heightened focus on view of self – may allow artists to be more focused on their craft, and more resilient to stress or fears of failure. For instance, Futterman Collier and Wayment (2021) found that in art-making processes, positive mood may be facilitated by activities and mindsets that reduce self-focus and orient the individual toward growth and transcendence – which bodes well for the potential of mindfulness activities to provide support for learners in the arts and design.

Meditation engages the mind non-verbally. The conscious mind is dependent upon language, which can restrict the scope of creative knowledge and action. Meditation can offer a non-linguistic experience of the world, toward creativity that taps into subconscious and intuitive levels of thought – thus making it amenable and potentially applicable to expressive and performative fields in the arts. Claxton (2000) called these intuitive levels of thought the "under-mind" and Gladwell (2005) referred to it as the "adaptive subconscious". Such intuitive experience is essential to creativity and requires a mind that is focused upon the present moment and free of distracting fears and desires.

As mindfulness has become more used in learning settings, there is a significant need for inquiry to understand the mindfulness-creativity link and practices among learners in creative fields of practice. This article provides a perspective on mindfulness for creativity among arts and design learners in higher education.

As professions rapidly change in the arts and design due to broader societal shifts and changes in technology, it is increasingly important to prepare students in these fields with the mental and emotional strengths and skills to define their own success while learning to navigate perceived barriers. Given the particular demands of creative field training and career preparation, there are few research studies on how to support the mental and emotional needs of this specific population of undergraduate artists, musicians, designers, and other creatives. The need for more research in this area suggests that the mindfulness focus of this study may be particularly useful and promising.

## 2. Methods

The purpose of this qualitative study was to explore if and how mindfulness practice affected arts and design college students' self-perceptions of creativity, among a group of undergraduate students in a US university's school of arts and design. These students were enrolled in a course focused on the creative process. We analyzed students' end-of-semester reflections to understand their experience of integrating mindfulness meditation both within and outside of class, with the research question: How does mindfulness meditation affect arts and design students' perceptions of their own creativity and creative process?

The second author of this paper was the lead instructor and course designer. The purpose of this inquiry was to learn from students' about how students perceived meditation practices in the class as affecting their creative process. This inquiry fits within a scholarship of teaching and learning (Boyer, 1990) paradigm. We suggest that there may be applicable ideas or points of transfer for other education contexts, although not conventional research generalizability (Shenton, 2004).

## 3. Participants

This study had 20 participants. All participants were college students at a large US university in the College of Arts and Design, who were enrolled in the class "Creative Environments". The students were all majors across a diverse range of areas of arts and design including, fine arts, design, architecture, dance, theater, and music. Most course participants were juniors or seniors (third- or fourth-year college students), with some sophomores (second year college students). Thus, the students in this course generally ranged in age between 19–21 years old. This was an elective course designed for arts and design majors, aimed to help students explore their own creative process. Mindful meditation was a part of the course as a way to allow students to consider how mindfulness might improve their creative awareness.

Participant data in the form of students' written reflections were collected from all students over several years of this semester-long course. Over these years, student enrollment in this course has varied anywhere from 40 students to 170 students (depending on classroom capacity).

Because this topic of mindfulness applied in teaching settings is still fairly recent, and emerges in an applied area of practice where mindfulness is still not fully understood, a highly exploratory and open approach to student data and sampling was used. In-depth qualitative

inquiry requires smaller samples to account for detailed analysis/meaning-making – and thus a complete analysis of a large-scale sample was not possible. Given the exploratory nature, we used a subset of 20 participants from across the three most recent iterations of the course, whose comments were representative of key themes and ideas we observed across an initial review of all of the data (Miles et al., 2014). Thus, we were able to focus purposely on the topic at hand in an exploratory manner, with an appropriate sample size for qualitative inquiry (Creswell & Poth, 2017).

This study is not a traditionally-designed scientific study, but is still a valuable empirical inquiry as a scholarship of teaching form of exploration or examination of pedagogical practices. The term *scholarship of teaching* was used by Boyer (1990) to express how the creation of knowledge about teaching and learning is a form of scholarship similar in importance to that of traditional scientific or academic research. Boyer's work demonstrated that activities associated with the scholarship of teaching (*e.g.*, exploration and dissemination of results related to pedagogical practices) are a valid and critical form of scholarly work, expanding knowledge in the field of research and practice. While such work is different from traditional "discovery" research in academia, it is recognized as important for scholarly knowledge dissemination. One of the challenges however, of research on teaching practices is that it is grounded within what Schön (1995) characterizes as the uncertain spaces of real-world applied practice, meaning that some traditional expectations of scientific study must allow for a more open and exploratory space, to reap the benefits of academic inquiry grounded in practice (and the possible limitations therein). Schön, in his influential work on the epistemology of practice, spoke of the dilemma of rigor *versus* relevance:

> "In the varied topography of professional practice, there is a high, hard ground overlooking a swamp. On the high ground, manageable problems lend themselves to solution through the use of research-based theory and technique. In the swampy lowlands, problems are messy and confusing and incapable of technical solution. The irony of this situation is that the problems of the high ground tend to be relatively unimportant to individuals or society at large, however great their technical interest may be, while in the swamp lie the problems of greatest human concern" (1995, p. 28).

Schön's substantive body of work suggests that the frequently held norm of privileging academic knowledge over practical knowledge must shift and bring more real-setting inquiry into academic research. This scholarly perspective emphasizes the kinds of knowing that are embedded in competent practice and sees research as generating new knowledge for action. Knowledge "generated in, for, and through a particular situation of action" (Schön, 1995, p. 29) can be represented in ways that are transferable to other situations. Thus, in some situations – particularly where the topic or problem is relevant, important and connected to issues that people care about (such as creativity as related to mindfulness and well-being), and where there is a current lack of research applied research (as in this study), preliminary studies are needed to help map the landscape prior to more in-depth studies. We acknowledge that this work is an initial and imperfect but important step in the landscape of this topic. We acknowledge the positionality to participants (teacher to students) and limitations with sample-formation, these points do not prevent an open and exploratory scholarly inquiry into an applied setting on an important topic.

## 4. Course context

This course about creative environments met twice a week (Monday/Wednesday) for nearly two hours. It involved a mix of lecture and hands-on collaborative work, with students broken into reading/creativity groups to explore areas of creativity that they were interested in (*e.g.*, music, travel, wellness, design, architecture, sports). Students engaged in creative exercises and projects, and visited the library to find literature in their area of creativity interest. They collaboratively created reading lists, video/resource lists, and also designed and engaged in kinesthetic experiences of their own making. Further, they created final presentations describing what they learned about creativity, design and their own creative process. While the course focused on theories of creativity and creative personalities, the course instructor also engaged the students in mindfulness meditations and mindfulness learning as a means to support their creative process.

### 4.1. Intervention

The mindfulness practice used in this course involved a meditation conducted at the start of every class session by the course instructor (the second author), who is an experienced meditation practitioner and teacher. In the first month, he used the same meditation script each time, to get students comfortable with and into the flow of meditation, seeking to "wire the process into the brain". Initially, he used a basic awareness-of-breath meditation, and shared with students some of the foundations/theory behind mindfulness, around becoming more self-aware of thinking and more able to let go of identification with thoughts.

After the first month, he alternated between different meditation practices, including a loving kindness meditation (which focuses on compassion toward oneself and all beings), bodily awareness meditations (aimed at sensory awareness of all feelings experienced in one's body), and open-awareness meditation (aimed at nonjudgmental noticing of all occurring thoughts and sensory experiences – *e.g.*, sounds, touch/feelings, sight, *etc.*). This range of meditation practices throughout the semester aimed at providing students with a variety of common meditative practices that can improve self-awareness and focus on the present moment. Students also learned about the foundations and intentions of mindfulness in class. They were also encouraged to practice mindfulness independently and keep a meditation journal, in developing their creative process, to use that experience in the rest of their work that semester.

### 4.2. Data collection and analysis

Data drawn from students' written reflections at the end of the semester focused on three open-ended prompts to elicit evidence of students' experiences integrating mindfulness meditation into creative practice. For privacy and institutional review board reasons, we use pseudonyms for student comments, ideas and work. The three reflection prompts included the following questions:
    1.  What did you learn about yourself from doing meditation?
    2.  Has meditation affected your creative process? Explain why or why not;
    3.  Have you seen positive/negative effects on your creative process from meditating?

Qualitative coding is interpretative, so we first calibrated our understanding of common themes and patterns (Moustakas, 1994). Yin (2013) suggests "playing" with data to become familiar and develop an organizational schema. The first author was the primary researcher and the second author was the course designer and instructor. We had familiarity with the data, but took another step to read and reread it.

We engaged a first round of coding to identify patterns (Bazeley, 2013), seeking similarities and differences between students' stories. In early/exploratory coding we gathered all of the reflection data and engaged a thematic hand-coding process to identify important ideas that occurred and recurred in student comments and work. The first set of codes included emergent themes that seemed interesting and relevant in our initial data reviews. The second iteration of coding honed in on core ideas by eliminating superfluous codes and summarizing ideas as key themes of mindfulness in these learners' experiences. In the third iteration, themes were tightened to strongly prevailing ideas throughout the students' reflections. This offered our most significant, concise themes, discussed in the findings and conclusions. Our semantic analysis focused on analyzing the data at the level of "meaning units" as outlined by Moustakas (1994). This essentially means that we did not analyze the data for specific words or phrases, and given the exploratory nature of this work it made sense to analyze at the level of ideas (for any passages, or utterances of a complete idea or expression of thought by participants).

Our goal was to tell a "story", methodically highlighting themes of these students' experiences implementing meditation practices into their learning and creative processes. While the experiences of these students are just that – a set of experiences – qualitative foundations suggest that rich exemplars have a "story" to tell (Moustakas, 1994).

A well-crafted structure can inform the field to offer transferability, although not generalizability. Miles et al. suggest,

> "[…] the events and processes in one setting are not wholly idiosyncratic. At a deeper level, the purpose is to see processes and outcomes […] to understand how they are qualified by local conditions, and thus to develop more sophisticated descriptions and more powerful explanations" (2014, p. 101).

Thus, we seek to identify themes that might have implications for other arts and design learning settings.

## 4.3. Reliability and validity

We engaged two qualitative verification strategies (Creswell & Poth, 2017) including: peer-review or debriefing, and rich, thick description. We did peer-review or debriefing via regular check-ins as co-researchers, but also with several outside scholars (including faculty members in a college of education). Within our analysis we also undertake rich thick description, through use of descriptive detail and extensive direct quoting of participants, to allow readers to consider participants' own words alongside our own ideas.

## 4.4. Limitations

Being involved in a course about creativity with meditation as an intervention, participants may have felt compelled to discuss their meditation experience and creativity in affirmative

ways. The second author/instructor attempted to control for this, by asking students to share their experiences with direct examples and/or relevant details or analogies; he was also careful to ensure that no grading judgment was attached to the nature of students' experiences as described (*i.e.*, no penalty associated with negative reflection). We directly quote students so that their responses can be judged by readers.

A delimitation of this study is that the sample was a small group of twenty students in an arts and design program, who self-selected into this undergraduate course about the creative process. We also acknowledge limitations with our attempt to select for sampling of representative students across multiple years of the course (given that a full qualitative inquiry into the large number of students seen across the years was impossible). Thus, our sample may not be broadly representative. But statistical generalizability was not our goal – as we sought to share an illustrative case with thematic resonance – again, with a goal of engaging in a scholarship of teaching (Boyer, 1990) exploratory inquiry into an applied but important area of creative learning.

## 5. Findings

Our findings reveal themes characterizing the experiences of arts and design college students with practicing meditation. Their reflections demonstrate implications for creativity and creative process, with themes including: "Processing anxiety, stress and emotions", "Focusing the mind for creativity", and "Managing the 'Voice of Judgment'". We describe each, interweaving the data to understand these ideas in the experiences of the students.

As students practiced and learned about mindfulness in class, they reflected on how they saw their skills showing up when they were later engaged in the creative process. They were not necessarily trying to become mindful while being creative and yet, they noticed the impact of mindfulness on their creative process. The first theme that emerged in student reflections was related to emotion regulation, particularly with regards to processing anxiety, stress.

### 5.1. Processing anxiety, stress and emotions

Mindfulness meditation helped learners process feelings, emotions, and anxieties. Students often felt freed up of a certain amount of internal negativity, which in turn freed up their own creative capacity. Table 1 demonstrates several key representative expressions and quotes from students.

One student, Khan, noted how meditation lowered his stress levels. Similarly, Kate emphasized how negative stressors had often plagued her and limited her creative process in the past, making it difficult to cope. Another student, Taylor, explicitly described the benefits of meditation as an indirect support to creativity via the ways that it reduces mental blocks to creativity. This notion of "letting go" was useful to students who struggled with stress, anxiety and other negative feelings. This letting go of troubling thoughts was not discussed explicitly in the course content but it emerged in many of their meditation reflections. For instance, Liza expressed this as self-forgiveness, or letting go of mistakes. Several students noted that the distressing effects of meditation were physically felt, and the awareness of their own mind

Table 1. Processing stress, anxiety, and emotions (source: created by authors)

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|---|
| "When I'm stress-free my mind tends to be more open to different ideas and doesn't feel so 'forced'. Without meditation, my stress throughout the week accumulates overtime". – Khan |
| "This year I had been more stressed and consumed by nagging thoughts. By taking time to relax and settle my mind it has given me an opportunity to focus on what inspires me. To be honest this class has given me my sanity back to make room for those creative ideas". – Kate |
| "I am not creative when I am stressed, depressed, bitter, or angry […]. We all will endure those feelings once in a while – but I've learned how to let go of feelings that hold me back from reaching my creative potential". – Taylor |
| "I've learned to forgive myself in my mistakes, especially as I dwell on those things that I failed at in the past that were my fault. In doing so, this seems to have alleviated some of the anxiety associated with beginning new projects or getting past fears about my work". – Liza |
| "[…] but in practicing and learning mindfulness meditation, I've become more aware and can stop it from adding to my stress. This helps me recharge my creative energy". – Annie |
| "Meditation has helped me with my anxiety. If I'm not in a constant state of progression or working towards something I feel lost and uneasy. This focus on the present gives me a clearer thought process. I find that I'm generating more new ideas and my designs and art have gone in new directions". – Bethany |

and body was helpful. Annie described how she had realized how during moments of stress she clenched her jaw. This sense of self-awareness – emotionally, physically and mentally in everyday life – came up in many comments as supporting a sense of focus to direct creative energy into. Some students directly addressed the importance of reducing anxiety. Another student, Bethany, described how this gave her focus and clarity in her design and art projects.

The reduction in stress and negative feelings or struggles students experienced is perhaps unsurprising, given that most existing research on mindfulness demonstrates a reduction in anxiety, which is often beneficial to well-being (Kinsella et al., 2020). It is interesting however, that students not only noticed an improvement in well-being through a reduction in anxiety and stress, they also perceived this as being beneficial to their creative process. This makes sense given that anxiety and stress can limit a person's thinking, decrease risk taking, and shut down openness to new ideas (Beghetto, 2007).

## 5.2. Focusing the mind for creativity

As several students felt freed up from the emotional residue of stress and anxiety, many also had the experience of their minds settling and a sense of clarity emerging as they met the present moment without the emotional weight they had been carrying. Thus, another core theme involved how mindfulness practice helped students to focus the mind for creative practice (quotes/evidence in Table 2).

As noted, Amy described how she began to use mindfulness not only as a practice unto itself, but also as a habit of mind to focus attention on her art. Similarly, Kelsey also described how meditation helped clear her mind to help notice everyday inspirations and new ideas, which in turn supported her creative process. Students often brought up the concept of distraction as a frequent impediment to their creativity, which can be a barrier to moving forward with a project or making thoughtful creative choices. Similarly, Morgan expressed

Table 2. Focusing the mind for creativity (source: created by authors)

| |
|---|
| "[…] observe, and gently bring attention back to the act of creating. […] In the world we live in today, my biggest struggle as a creative, like most people, is focusing myself enough for the work of creativity. Meditation has, and will continue, to help me focus and create". – Amy |
| "I see more clearly throughout the day and appreciate the little inspirations that would typically go unnoticed. I have been able to connect ideas and find more resources because I have been more in tune with my surroundings". – Kelsey |
| "I'm starting to realize that when I have lots of distractions, my creativity feels muzzled, and the end result is my work is not its highest quality". – Bethany |
| "Meditation helps my creative process in two ways. It allows me to clear my mind and relax my body. This helps me think of new ideas for my artwork, because I'm not focusing on all the other things or stresses going on in my life. It also lets me focus on what is important to me. This allows me to figure out why I am creating". – Morgan |
| "When I meditate I visualize the problem being solved as the light at the end of the tunnel and my focus (and ideas to solve the problem) returns as I end the meditation". – Dev |

the problem of distraction as being a detractor from creative work, and reflected on how meditation helped remove certain creative blocks by putting focus more squarely on creative goals and not on the typical life distractions.

In doing so, Morgan directly observed the mind-body connection. While mindfulness seeks to improve awareness of the mind it also may have noticeable effects of physiology by reducing stress (Khoury et al., 2015). Non-judgmental awareness relaxes the body, which in turn circles back to focusing the mind. Morgan points out that clearing the mental clutter helps provide a sense of creative purpose – which is central to good creative work.

Another student, Dev, wrote about using meditation to refocus and calm his "monkey mind" (a term used to refer to a mind with thoughts that jump around). Students' reflections noted how mental focus through meditation helped to support creativity. For instance, Sunny noted that meditation centered her thoughts, describing them as a rushing "whirlwind that can't be tamed". But she also noted that, "taking the time to center myself and breathe helped me feel energized and have a clear mind to work on projects or art". While Sunny offered the "whirlwind" analogy for her busy mind, another student Eva, mentioned, "If I could describe it as a metaphor, it would be like hitting the 'refresh' or 'restart' button on a slow computer. Once you are done reloading, you have a clearer refreshed page or mind".

New ideas are critical and meditation helps clear the mind to allow them to emerge. But professional creativity also lives in the craft of work, in which artists, designers, musicians and other creators must engage in hard-won efforts to bring their creations to fruition (Glück et al., 2002). They require practices that open the mind to new ideas, and help to center a person's sense of focus to do the actual work of creating. It is critical to find ways to let go of some of the negative blocks around creativity, in the form of emotions, stress, or anxiety. In alleviating these negative factors, mindfulness may support the kinds of focus, clarity and openness that can allow creatives to tune into new ideas, and also work more productively with less fear of judgment in their own creative ideas and projects. These ideas also emerged in another thematic concept, known as the "Voice of Judgment" ("VOJ").

## 5.3. Managing the "Voice of Judgment"

A central concept for creativity and mindfulness involves the "VOJ", which arose as a theme in students' reflections, in how they perceived the meditation practice as helping their creativity by reducing something called "VOJ". The "VOJ" construct has been described by psychologists as an internal monologue that everyone has, which critically judges our thoughts and actions, and affects our willingness to engage creatively. Along with these thoughts comes our internal-mental voice that judges and filters every experience. Ray (1987) describe this "VOJ" as being tied to our sense of creative identity. Even a slight decrease in self-judgment increases a person's capacity to engage creatively.

The instructor did not explicitly connect the concept of "VOJ" to meditation, but "VOJ" was part of an activity in class, where each student created a visual to represent their own "VOJ" as a person or a physical object/idea (through sketching, drawing, or other arts-based means). This technique helps people identify anxious or counterproductive narratives in their thinking, to notice the influence on their creativity. Students noted that meditation helped them to identify the "VOJ" in order to detach from it, which supported their creativity (evidence/quotes in Table 3).

As noted, Lyanna remarked that she had begun to recognize the internal narration that had held her back. Or student Melanie commented on the effects of becoming more aware of her "VOJ" – finding it so beneficial for her creativity that she was already planning a meditation retreat for the summer ahead. Students consistently reflected on how meditation

Table 3. Managing the "Voice of Judgment" (source: created by authors)

| |
|---|
| "It's challenging to not judge thoughts, but mindfulness has helped me be more aware of and less critical with my "Voice of Judgment". The harshness of that voice is calmed […]. I know to remind myself that thoughts are just thoughts and not who I am. This effects my relationship with everything I touch". – Melanie |
| "I have begun to understand the hidden voice that controls our creative process. Meditation lets me come back to solitude and remember my goals. I can then look at and separate from my own voice of judgment. You're able to be in tune with yourself to have a dialogue with the voice, which is my own worst enemy". – Hassan |
| "The mental noise keeps me from completing (or even starting) projects. It keeps me from tapping into the creative reserves just below the surface. I have seen the effects of meditation because there have been entire days this semester where I have felt the sweet presence of inspiration and have accomplished creative things that I would have been too shy to try". – Celia |
| "The mental noise keeps me from completing (or even starting) projects. It keeps me from tapping into the creative reserves just below the surface. I have seen the effects of meditation because there have been entire days this semester where I have felt the sweet presence of inspiration and have accomplished creative things that I would have been too shy to try". – James |
| "I usually do a quick meditation now before brainstorming a painting. It helps me open my mind to new ideas. I can have a more open conversation with myself without judgment and without my inner critic telling me it is stupid". – Renee |
| "Meditation has helped me manage the negative and critical voice that typically emerges for me during times of creativity. Accepting imperfection and deviation from a plan within my creative expression is something I'm learning, and meditation has improved my ability to step away from my immediate fixations". – Lyanna |

practice was helpful to them through removing barriers that sometimes impede creativity. Without awareness, it can be difficult to recognize the internal voice that can hold a person back. Hassan also found the practice beneficial not only for clearing the mind, but also for seeing the mind – which in turn opened up his own authentic self to creativity.

While the concept of a "VOJ" arose during the class when students did an art project on it, it was never related explicitly to the meditation practice. Thus, it was interesting that students actively made the connection, and found meditation useful for identifying this voice and lessening its negative impact, and silencing the inhibitive mental noise. Meditation works from the principle of noticing one's thoughts, in order to disentangle from them – to be less affected by the stress or emotional ups and downs that accompany thinking. By noticing the thoughts that surround the concept of the "VOJ", a person may quiet the voice or let it go, and move past thoughts that might derail them. Some students described trying to integrate meditation more broadly into their lives for well-being. But others, like Renee stated, specifically use it alongside creative practice. She also described how the craft of art or other creative projects "is meditative itself once you get into the work of it", and noted that this is why "they work together so well". Based on students' experiences and perceptions, the practices of meditation and creative work can be mutually reinforcing, and the "VOJ" concept is a part of that.

## Discussion

This study explored the connection between mindfulness and creativity in the reflections of students in a college of arts and design. Students resonated with mindfulness meditation as a way to support their creativity and creative process in several ways centered on the themes of: processing negative emotions and anxiety to reduce impediments to the creative process; focusing the mind to be more open and able to concentrate and create; and managing the "VOJ" to allow more productive creative work.

### Dealing with anxieties and stress

Students noticed how mindfulness meditation helped them to deal with their anxieties, stress, or other feelings, which supported their creativity. This notion of managing stress and anxiety via meditation arose as a distinct theme in and of itself – yet it also connects with the other themes, in that the meditation helped to remove blocks or mental habits that impeded creativity.

Mindfulness can help to reduce anxiety, improve focus, and build awareness of mind (Lippelt et al., 2014) – which allows clarity of thought, space for new ideas and fresh perspectives, and increased ability to work productively (Goldin & Gross, 2010). Research has consistently shown that by developing awareness about one's mind and the present moment, people experience less anxiety, more positive emotions and engagement, and other mental and emotional benefits (Kinsella et al., 2020). In becoming more aware of their thinking, students in this class may have become more skilled at navigating thought processes in psychologically healthy ways (Bennett & Dorjee, 2016). This ability to handle stresses and anxieties, may be increasingly important to learners of all ages in the arts and design fields given the pressures of a fast-paced society. Fisher (2006) suggests that mindfulness may support

creativity by promoting well-being, and freeing people to be creative by releasing emotional blocks. In a materialistic, competitive world, people are subject to many stresses and strains, and, "are bombarded by an information overload of words, images and noise. They are prey to the frustration and anger of others and often experience negative emotions more deeply and intensely" (Fisher, 2006, p. 148). These kinds of stressors can become blocks to learning and creativity, making mindfulness a potentially beneficial approach and psychological support for creativity (Capurso et al., 2014).

Creative activities by their nature have a healing quality for mental and emotional health (Forgeard, 2013), and this is often the case of the craft of art or design – in the work of making art or a project, one can let go of thinking and simply be. However, many people – even professional creatives or learners – can be plagued by self-doubts and anxieties, which make it challenging to engage or focus on their craft. Thereby, as some students observed, there is a potential mental-emotional health benefit, supporting a creative advantage, to mindfulness meditation.

### Clarity of mind

The focus and clarity that students gained through meditation became a theme for how mindfulness helped not only before engaging in creative work, but in sustained ways throughout their semester. It appeared to offer a useful method to bring a greater sense of clarity, calm, and focus to their creativity. This also supported students' ability to engage in the work of creativity – and work, although not often foregrounded in creativity research, is critical to creative practice.

Glück et al. (2002) studied beliefs on creativity, comparing artists' definitions of creativity to those of other people. They reported that artists invariably foregrounded the reality of "hard work" in their creativity definitions. This "hard work" definition of creativity did not emerge among non-artists/non-creatives. This suggests that artists and designers, who often make their living through creative practice, acknowledge the role of work in making creativity a reality. Cropley (2006) noted that creativity involves more than just coming up with novel ideas, it also requires focusing the mind on actualizing that creativity – thus it requires convergent thinking. Convergent thinking – the ability to focus the mind and make evaluative judgments (Zhang et al., 2020) is crucial to creativity and requires persistence on task (de Dreu et al., 2012). Therefore, practices such as mindfulness, which support concentration and focus, may be beneficial for moving past distractions or creative blocks, to open the mind and engage in the actual work and focused craft of creativity.

As noted, meditation engages the mind non-verbally (Fisher, 2006). Therefore, meditation may expand creativity by tapping into subconscious and intuitive thought (Henriksen et al., 2020). This may explain students' sense of feeling more focused, and "open to ideas". Intuitive or creative experience requires a focus on the present moment and freedom from distracting fears and desires (Kabat-Zinn, 1990).

### Managing the "Voice of Judgment"

Finally, students felt that meditation allowed them to recognize their self-talk, or "VOJ". Most people have thousands of thoughts on a daily basis, many of which are counterproductive.

Nelson and Stolterman (2000) describe how this negative internal narrative can greatly diminish the creativity of artists and designers. The development of a person's creative identity at any age is a continuing, evolving process (Rostan, 1998). By becoming aware of our own thinking, we take some measure of control over it (Ray, 1987). In this course, the instructor had students do an assignment to help them think about their "VOJ", by asking them to notice it and create a visual that personified it. As students became aware of their "VOJ", they noticed that doing the class meditations helped them to become more able to manage self-talk. By personifying thoughts as something external, Ray (1987) suggests that it is possible to let go of self-narrative or unhelpful thoughts and free up creative thinking.

The personification of the "VOJ" has been used in studies to improve students' resilience and creativity, and it can be adapted for other teaching settings (Larsen Workmon, 2018) (and has been used in other settings like mental health). In observing their inner monologues, students become more mindfully aware of how to manage them.

This relates to the other themes of increasing creativity by increasing well-being and awareness of one's mind and emotional states (Lippelt et al., 2014). Often the thoughts that we most need to separate from are those that appear as internal-narration (Kabat-Zinn, 1990). Psychologists have pointed to the VOJ as being "the thing that stops people from being creative, that inner doubt, that voice that says, 'You're not good enough, somebody else thought of this'" (Haydon, 2014). In observing thoughts, people can see the internal voice that narrates and judges creative endeavors, and move past it – a finding seen among the students in this study.

## Conclusions

Mindfulness improves concentration (Kropp & Sedlmeier, 2019; Sedlmeier et al., 2012), decreases fear of judgment, and enhances open-minded thinking while reducing aversive thinking (Kinsella et al., 2020). These all map onto key characteristics of creative habits (Prabhu et al., 2008). This suggests that mindfulness practice in education can support the habits of mind associated with creativity. Our findings show that these arts and design learners perceived the integration of meditation practice into learning to be a support for their creativity.

The interconnected themes of increased focus, ability to process anxiety/emotions, and management of the "VOJ", reflect several ways that they perceive mindfulness to benefit creativity. This support for creative well-being is crucial for those who seek to make a professional study or career in creative fields. But we believe there is also implied potential for the use of meditation to support creativity in other areas of education.

Findings from the present study connect to Shapiro's (1992) work (as cited by Shapiro et al., 2006) suggests that intentions for practicing mindfulness are connected to outcomes of practicing mindfulness. The intentions for practicing mindfulness here were to support and enhance students' personal creative process; and this appeared to support to the outcomes. Students generally found that they experienced increased capacity for regulating emotions and ability to cope with anxiety which supported mental clarity, and decreased identification with the Voice of Judgment. Improved self-regulation further connects to Shapiro's (1992) findings regarding the tendency for beginning mindfulness practitioners to bring intentions

for self-regulation and to experience outcomes similar to participants in the present study, including disidentification with thoughts, emotions and experiences (Wielgosz et al., 2019). In this current study, this translated to calming the voice of judgement, managing emotions, and focusing the mind.

Students in creative learning settings may tend to experience similar struggles, like overcoming a critical voice in their heads constantly evaluating their work, which can be connected to feelings of stress and anxiety and make focusing on creating difficult. When students become more aware of the thoughts or emotions they struggle with that present as obstacles to the creative process, the space for dereification increases, distancing the students from these barriers, bringing them more in touch with their present moment experience. In doing so, students may question and recognize that they have more choice over their thoughts and experiences, which allows new ideas or work to emerge, through artistic expression or life experience. Shapiro's (1992) research suggests that when mindfulness practitioners move beyond the need for self-regulation of emotions, thoughts, and behaviors, their intention for practice tends to shift into self-exploration, followed by self-liberation or transcendence of self. As many of the participants in this class were beginning mindfulness practitioners, future research could explore how the creative process and outcomes may shift as the individual shifts in their mindfulness practice over time into self-exploration and self-liberation.

It is vital to see more research on mindfulness and creativity embedded in real-world, applied contexts, particularly learning settings. This could support better understanding of the intersection of these constructs for people *in-situ* – and a more robust understanding of mindfulness and creativity "in the wild", beyond labs or testing situations. While this study is a small-scale exploration, it offers a tentative step toward a more practical scope of research around creativity and mindfulness for learners. Helping educators in all contexts to understand how mindfulness practices might support their students in creative tasks may be beneficial. As these concepts are essential to well-being and development at individual and societal levels, understanding them is critical to the future of human thinking, wellness, and society.

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