HIDING IN PLAIN SIGHT: EXPLORING MIDDLE SCHOOL TEACHERS’
ACCOUNTS OF CREATIVITY FOR TEACHING

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A DISSERTATION

in

Education

Presented to the Faculties of the University of Pennsylvania in
Partial Fulfillment of the Requirements for the
Degree of Doctor of Education

2019

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DEDICATION

To the five most important teachers in my life—my family.

To my children, Kathryn and Ryan, who taught me to see familiar things with new eyes, to find novelty in the everyday: May this dissertation somehow inspire you to find your passion and follow it.


To my wife, Karen, who taught me what love, commitment, and sacrifice are about by supporting my work on this study: May this dissertation honor the sacrifices you made for me to complete it, and may it also honor the noble and creative profession of teaching to which you contribute.

To my parents, Glenn and Mary Ellen—my very first teachers—who taught me from the beginning to be creative, be curious, be kind, be diligent, and be committed: May this dissertation reflect those ideals that you instilled in me from a very young age.
ACKNOWLEDGEMENTS

This dissertation is the result of support and contributions from many people. The Tellerstown School District was gracious in supporting this project in explicit and subtle ways. I appreciate the generous support of Richard Gusick, Wendy Towle, Mark Cataldi, and Andy Phillips, who permitted the present study to take place at Tellerstown Middle School. I am also grateful to colleagues of mine, past and present, at Tellerstown School District—too many to mention by name—who inquired with me over the years about the importance of creativity in schools for both students and teachers. The 23 teachers who participated in this study were especially generous with their time, particularly in light of the many competing demands for their time and attention. I am eternally grateful that they shared their experiences with me, and allowed me to learn about them, with them, and through them. I am humbled by their support of this project, and I am honored to tell their story through this dissertation. I drew inspiration from the commitment, care, and compassion they consistently demonstrate toward their students and their craft.

I owe a debt of gratitude to my advisor and dissertation chair, Abby Reisman, for her steady support, encouragement, goal-setting, and feedback that helped to guide this study from an idea and passion of mine to a completed project. Thanks, as well, to committee members Yasmin Kafai and John D’Auria, whose suggestions helped to shape and refine this study. I am also grateful to critical friends Mary Kaye Rhude-Faust and Rowan Machalow, who listened to, read, reviewed, and constructively challenged my ideas and writing in various stages of development. My understandings were deepened because of our conversations. To my network of professors and friends at the University of Pennsylvania, particularly Janine Remillard, Frances Rust, Edward Brockenbrough,
and fellow students in our BRRRAC group who offered sound advice, held me accountable to timelines, provided feedback on my work, reviewed drafts, and celebrated my successes over the years, I am most grateful.

Lastly, and most importantly, I thank my family for their steadfast support and understanding throughout this project. Karen, Kathryn, and Ryan, this dissertation would not have been possible without the sacrifices you made and the support you provided.

Thank you!
Creativity has gained prominence as an important skill for citizens in a rapidly-changing, hyperconnected world. This study introduces and attempts to understand a new construct—creativity for teaching (CFT)—which captures how teachers apply their own creativity. Education researchers largely eschew the term creativity in favor of other constructs, though creativity clearly plays an important role in studies related to teacher effectiveness. This qualitative study, situated in a high-achieving suburban middle school, considered: (1) in what ways and to what extent teachers see themselves, their work, and their profession as creative, (2) in what ways and to what extent teachers see other teachers’ work as creative, and (3) what factors inspire, promote, or inhibit teachers’ creativity. Eight teachers participated in two semi-structured interviews and completed a series of CFT logs that limited reflections to a 24-hour period of time; fifteen additional participants contributed through focus group interviews. Teachers’ first impressions of creativity highlighted: personality factors, the Arts, and highly memorable personal examples of creative products, made from scratch, and featuring high investments of time. Many teachers initially indicated that they did not see themselves as creative. When prompted to consider a specific definition for CFT, teachers identified
many examples from their own practices that were smaller in scale, greater in frequency, and better aligned with the reasons they noted CFT was important. Teachers acknowledged that their conceptions of creativity broadened as a result of their reflection. Variations in CFT were evident across subject matter areas; however, in all cases, pedagogical content knowledge was critical for teachers to apply their CFT in ways that promoted student learning. CFT was determined to be essential to the work of teachers, but the individualized nature of novelty and contextual value inherent in CFT make it easy to overlook. Implications of these findings for the academy, school leaders, and professional development include recommendations to explicitly include creativity in the discourse of teacher practices, make clear the expectation for teachers to use creativity on an everyday basis, and prompt teachers to consider broader notions of creativity that connect to their classroom practice and their subject matter.
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CHAPTER 1

INTRODUCTION

Creativity isn’t just egocentric self-indulgence or oddball eccentricity. It is also the way we devise ingenious solutions to overwhelming social problems. Creativity counts when other social values also come into play like heritage, inclusion and sustainability. Creativity is a collective responsibility, not just an individual disposition. ... A new narrative of educational change is emerging. This narrative embraces a vision of a large-scale system for learning that is more creative, inclusive and sustainable. It also envisions a different kind of teaching profession that is collaborative rather than individualistic, and that has its own needs for creativity too (Hargreaves, 2016, pp. 34-37).

In order to meet the modern American expectation that all students learn the knowledge and skills needed in a rapidly changing, hyperconnected society, there is a need for teachers to embrace their own creativity in fulfilling their everyday teaching responsibilities. In recent decades, the work of teachers has been reframed, deemphasizing the “telling” or presentation of content and instead, emphasizing the crucial role of the teacher in ensuring that student learning takes place (Darling-Hammond & Sykes, 1999). Helping teachers to grow and develop the skills and strategies to reach all students is no easy task. Recent teacher accountability initiatives, which link teachers’ annual performance reviews to student scores on standardized assessments, may have unintended consequences that paradoxically hamper teacher and student improvement. Unfortunately, when facing high-risk situations, the response of most individuals and organizations is to become more conservative, often in times when they most need to be innovative (Ekvall, 1997). One need only note the prevalence of “scripted curricula” in traditionally low performing schools, which reduce the complexities of teaching to reading verbatim from a script (Sawyer, 2004). The British
National Advisory Committee on Creative and Cultural Education (National Advisory Committee on Creative and Cultural Education (NACCCE), 1999) noted that such prescriptive approaches risk “de-skilling teachers” (p. 111). While training teachers to mimic the behaviors of effective teachers (à la Lemov’s *Teach like a Champion*) may hold some promise in terms of raising the floor of teacher quality, the application of creativity to the work of teachers holds the potential to stimulate reflection, thinking, and growth in a way that is dynamic and responsive to the highly contextualized nature of schools and teaching (Hargreaves, 2016). And yet, *creativity* is strangely absent from the discourse surrounding the work of teachers.

**Problem and Significance**

Just before the new millennium, when considering how creativity might be promoted within its existing education system, the British government formed the National Advisory Committee on Creative and Cultural Education (NACCCE) to make independent recommendations. While that frequently referenced report (NACCCE, 1999) sparked lively conversations both within and beyond the UK borders about the intersection between creativity and education, the need for such a report suggested a disconnect between creative aims for students attending schools and the existing practices of teachers and administrators who work in them. Is it possible for creativity to flourish in schools amidst calls for standardization and accountability?

NACCCE (1999) introduced and placed specific emphasis on *“teaching for creativity,”* a new construct they defined as “forms of teaching that are intended to develop young people’s own creative thinking or behavior” (p. 103). In the creativity research that followed, most of the research examining teachers’ activity focused on the
important role the teacher plays in setting up conditions that encourage or discourage student creativity (see, for example: R. A. Beghetto & Kaufman, 2010; Tan, 2007) while ignoring explicit inquiry into how teachers apply creativity in their own professional practices.

Developing a skill like creativity in students implies that creativity is content that is worthy of teaching across subject areas. Shulman (1986) suggests that teachers need both content knowledge and pedagogical content knowledge in order to effectively model, represent and teach subject matter. It follows, then, that if teachers are expected to teach for creativity, they should first be knowledgeable about creativity, and second, understand creativity for teaching. Although elements of creativity are implicitly alluded to in educational research, the explicit construct, *creativity for teaching*, does not exist. Just as Shulman (1986) distinguishes between knowledge of subject matter and knowledge of subject matter for teaching, creativity for teaching needs to be understood as its own construct beyond creativity in the general sense. Further, creativity has been shown to have both domain-general and domain-specific properties (Plucker & Beghetto, 2004). Creativity for teaching might therefore be considered a domain-specific construct that applies to teachers.

NACCCE (1999) acknowledged that the construct they emphasized, teaching for creativity, involves *teaching creatively*, defined as teachers “using imaginative approaches to make learning more interesting, exciting and effective” (p. 103). Committee members downplayed teaching creatively in the report for fear that its connection to effectiveness in a politicized climate of assessment and accountability might be counterproductive to aims of teaching for creativity (Jeffrey & Craft, 2001).
Embedded in the NACCCE (1999) definitions of “teaching creatively” and “teaching for creativity” is a tension regarding the function creativity serves in education. On the one hand, creativity is presented as a stand-alone goal, worthy of pursuit on its own; on the other hand, creativity has utilitarian elements where it can function as a means to separate ends.

This tension is important to recognize when considering the creative activities of teachers. Teachers may apply creativity because doing so is important to them as individuals. Or they may openly model their own creativity with the goal of developing creativity in students. Instances like these might suggest that creativity and creativity for teaching each has value as its own pursuit. But teachers can also apply their creativity to help students learn math, science, writing, social studies, music, or any other content area more effectively. In that regard, creativity for teaching may be seen as a means to an end or a pedagogical approach for building content-related skills and knowledge in students.

A very small handful of studies have looked explicitly at elements of teacher creativity. In earlier work with British early childhood teachers, Woods (1990) found that teacher creativity involves innovation, ownership, control and relevance. An extensive study of British teachers at all levels of education by Fryer (1996) revealed that teachers did not see themselves as creative. She also noted differences in beliefs about creativity between British and U.S. teachers, where British teachers thought of creativity as a rare gift (Fryer, 1996). In work that followed the NACCCE report (1999), Narey (2006) identified relationships between teacher creativity and reflective practice, and Henrikson (2011) studied National Teacher of the Year winners and finalists to explore how creativity and trans-disciplinary thinking influenced their practices. Smith and Smith
(2010) observed that educators talk about creativity in ways that differ from creativity researchers, indicating a need to consider creativity for teaching from the perspectives of teachers themselves.

This study sought to build on this work in a quest to better understand a neglected construct, creativity for teaching, as described by middle school teachers in a high-achieving suburban school district. Engaging in this inquiry provided an opportunity to relate the work of teachers to three prominent challenges in the broader creativity literature related to the following: definition (what is creativity?), scale (do small, everyday innovations still count as creative?), and choice (how and when do individuals decide to take a creative rather than routine approach, and what influences these decisions?). In addition, the study used Danielson’s (2007) Framework for Teaching as an analytic tool to explore how teachers’ accounts of creativity for teaching relate to the domains of teachers’ practice: Planning and Preparation, Classroom Environment, Instruction, and Professional Responsibilities.

**Research Questions**

The following research questions frame and guide this study:

1. **In what ways and to what extent do teachers see themselves, their work, and their profession as creative?**
   - In which aspects of their professional lives do they apply creativity?
   - In which aspects of their professional lives do they NOT apply creativity?
   - To what extent do teachers’ perceptions of creativity vary by subject area?
2. In what ways and to what extent do teachers see other teachers’ work as creative?
   - In which aspects of their professional lives do they envision their colleagues applying creativity?
   - In which aspects of their professional lives do they envision their colleagues NOT applying creativity?

3. What do teachers cite as factors that inspire, promote, or inhibit their creativity?

**Personal Interest and the Story of the Questions**

For the past twenty years, I have been employed by Tellerstown School District (TTSD, a pseudonym), a suburban school district in the northeastern United States. Over the years, I have served the district in a number of different positions: high school math teacher; K-12 curriculum supervisor for math and science; high school assistant principal; and, for the last nine years, middle school assistant principal. Beginning in the fall of 2006, TTSD began a new period of strategic planning. In a three-year collaborative effort, over 900 students, parents, community members and district employees contributed to develop a framework of Essential Skills in four areas: Creativity; Critical Thinking; Social Responsibility and Personal Integrity; and Technology and Digital Media Literacy.

Between 2006 and 2009, the TTSD Creativity Committee, consisting of twelve K-12 teachers, representing a cross-section of subject areas, met regularly to examine,
discuss and share findings from research on creativity. The committee’s efforts culminated with the development and district-wide implementation of a creativity model (see Figure 1) to advance students’ creativity.

Figure 1. TTSD creativity model

The model features a reflective process that progresses through stages of awareness (recognize a problem or opportunity), imagination (generate possibilities), and action (attempt solutions or construct a product). A starting point is not prescribed in order to allow flexibility for teachers and students to engage in classroom activities that emphasize parts of the process or the process in its full cyclical form. The Learning Environment is situated at the center of the model, as teachers work to support creative growth through classroom expectations, norms, routines, and personal interactions.

Concurrently, two things happened that sparked my present line of inquiry. First, I had been reading extensively on teacher development, expertise, teacher learning, and the reframing of teaching as “the learning profession” (Darling-Hammond & Sykes, 1999). The teachers I worked with seemed to embody these principles, and the new
focus on Essential Skills made their learning and development more noticeable by starting new conversations and providing new entry points to old conversations. These teachers saw learning—about their students and about their practice—as a natural process expected of any profession, and a process where teachers were active contributors to, not just passive recipients of, knowledge. I started thinking about how studying teacher learning and development within a reframed context presented an opportunity to break away from what I perceived as a deficit-oriented discourse of teacher professional development.

Second, as the district implemented the Creativity Committee’s action plan to develop creativity in students, it occurred to me that the creative process they outlined seemed to provide a structural blueprint for good teaching. Indeed, teachers I worked with were reflective about their practice, open to recognizing problems or opportunities, and able to think of multiple options for addressing challenges that emerged. They called upon their extensive knowledge of experience, students, and context to select what they thought was the most appropriate course of action in a variety of contexts. And yet, when I talked with these teachers about their practices, they demonstrated an extreme sense of humility about their work, frequently downplaying exemplary practices as “nothing special,” “just doing their job,” or commenting that “any one of [their] colleagues could have developed an activity or lesson like this.” In some cases, they would recognize and acknowledge creativity in colleagues, but deflect the application of that term, creativity, to themselves.

As it stands, we know very little about how teachers think creativity relates to their work, and even less about how they apply creative processes in their daily activities,
whether intentionally or unintentionally. So much of what a teacher does—like making in-the-moment decisions—is invisible to the classroom observer; planning, grading, communicating with families, reflecting on his or her work, and interacting with colleagues, for example, take place off-stage, outside of the time and space of classroom practice. Experienced teachers often choose effective strategies with such fluidity and automaticity that they may not be metacognitively aware of some of their own creative activities (Huberman, 1993). In short, if teachers are to effectively use their creativity for teaching, and school administrators are to support the development of teachers with respect to creativity, then: (a) we need to know how teachers understand creativity as it relates to their own professional practices; (b) we need to understand what influences teachers’ decisions to apply (or not to apply) creative thinking and problem-solving processes to their teaching responsibilities; and (c) we need to know what activities from teachers’ professional practices produce opportunities to apply creativity for teaching.
CHAPTER 2

LITERATURE REVIEW AND CONCEPTUAL FRAMEWORK

Creativity and teaching each have their own extensive lines of research; however, explicit references to creativity are strangely absent from research on teaching and teachers, and creativity researchers have largely avoided the education arena. As Smith and Smith (2010) note, “creativity and education sit and look at one another from a distance, much like the boys and girls at the seventh-grade dance, each one knowing that a foray across the gym floor might bring great rewards but is fraught with peril. Occasionally, a brave soul chooses to venture forth, all too often not the individual the rest of the group would have chosen as an emissary” (pp. 251-252). Historically, creativity and education have certainly interacted with one another. At particular times when responding to specific challenges, the Sputnik era, for example, creativity was more prominent in the educational sphere, and creativity has consistently been important when considering the education of special populations, notably, in the education of gifted students (Feldman & Benjamin, 2006).

What themes from creativity research may be worthy of consideration when studying the complex work of teachers? Despite the relative absence of “creativity” from the discourse around teaching, in what ways does existing research on teaching intersect with research on creativity? This literature review is organized into five sections. The first explains three chronic dilemmas that emerge from creativity research—definition (what is creativity?), scale (do small, everyday innovations still count as creative?), and choice (how and when do individuals decide to take a creative rather than routine approach?)—and then connects these to the work of teachers. The second section
reviews the contributions of a small collection of studies that explicitly considered the creativity of teachers. The next two sections highlight two well-cited constructs from educational theory and practice to demonstrate the dominant role of creativity, even when it is not explicitly referenced. In the final section, I propose a conceptual framework for creativity for teaching, with each of its components supported through the literature on creativity and teaching.

Three Chronic Dilemmas from Creativity Research

Creativity and the Definition Problem

Despite over half a century of efforts by creativity researchers to better understand creativity, a standard definition for creativity does not exist (Cropley, 1999; Sternberg, 1988; Plucker, Beghetto & Dow, 2004). Because it is specifically situated within the context of education, the NACCCE’s definition of creativity—“imaginative activity fashioned so as to produce outcomes that are both original and of value” (NACCCE, 1999, p. 90)—provides a starting point for considering important characteristics of creativity across the literature.

Imaginative activity is the root of creativity. When the imagination is used, one engages in a process of generating thoughts and ideas that extend beyond what is known or expected. Craft (2011) characterized creativity as the art of “possibility thinking,” where one envisions that which has not yet come into being. In imaginative activity, divergent thinking produces alternatives from new ideas, novel combinations of elements, or unique applications or interpretations of existing ideas (NACCCE, 1999).
Unlike dreaming, creativity requires some degree of intentionality on the part of the individual. In other words, the imaginative activity needs to be purposely applied, or fashioned, toward some end goal. Admittedly, the end goals frequently change throughout the process, as failures and successes inform the individual’s work. Yet, even when breakthroughs occur unexpectedly or through failures, the individual makes an intentional choice to apply the newfound understanding in particular ways (NACCCE, 1999).

Originality, or novelty, is a hallmark characteristic contained in almost every formal definition of creativity (Plucker, Beghetto, & Dow, 2004). We think of creativity as being outside the field of expected responses, going beyond expectations to form a new combination, association or product. That said, originality can be framed in different ways, resulting in a variety of perspectives on creativity. NACCCE (1999) categorizes originality with respect to individual, relative, and historic frames of reference. Similarly, others (J. C. Kaufman & Beghetto, 2009; Richards, 2007; M. a Runco, 1996) have highlighted how one’s particular frame of reference for originality in defining creativity can restrict or democratize creativity.

Lastly, creativity requires that the product be of value. Once imaginative activity has generated thoughts and ideas, then the evaluative phase of creativity edits those ideas to determine their quality and appropriateness to the task at hand. In this regard, creativity requires that creative, divergent thinking must also include critical, convergent thinking. Related to value, other creativity researchers use the term appropriate, requiring that the creative idea remain within certain expected parameters for the task at hand (Beghetto & Kaufman, 2013). Richards (2007) combines value and appropriate,
requiring examples of everyday creativity to be *useful* at the individual level. Beyond the personal level, however, usefulness can also describe scale or impact—the extent to which an individual’s novel idea, product or action is likely to be accepted or adopted by others. Kaufman and Sternberg (2007) include *quality* as a requirement for creativity; if an idea is not worth putting into action by its generator or others afterwards, it certainly would not be considered creative.

While there is general agreement about the importance of novelty and value or usefulness in defining creativity, other characteristics have been passionately contested. Historically, one of the most prominent debates focused on whether creativity was domain-specific or domain-general. Those who have claimed creativity was domain-specific tended to examine products or artifacts, noting a lack of correlation on the levels of creativity exhibited across different domains. Supporters of the domain-general nature of creativity note the commonalities in highly creative individuals across domains, frequently studying psychometric and personality characteristics of these individuals. More recently, creativity researchers have found common ground, noting the likelihood that creativity contains both domain-general and domain-specific properties (Amabile, 1996; Baer & Kaufman, 2005; Baer, 2010). This resonates with kinds of knowledge required for teaching (Shulman, 1986).

Another contributor to confusion surrounding the definition of creativity relates to the variety of constructs scholars use when studying creativity. Researchers differ in their units of analysis, with people (Barron & Harrington, 1981; Guilford, 1950; Torrance, 1988), processes (Cropley & Cropley, 2008; Osborn, 1953; Wallas, 1926), products (Amabile, 1996; J. C. Kaufman & Beghetto, 2009; Richards, 2007; Simonton,
environmental pressures (Amabile, Conty, Coon, Lazenby, & Herron, 1996; Ekvall, 1997), and systems (Csikszentmihalyi & Wolfe, 2014; Puccio & Cabra, 2010) being the most popular choices (Kozbelt, Beghetto, & Runco, 2010). Resultantly, these varied approaches to defining and researching creativity lead to seemingly paradoxical or contradictory findings in the literature (Cropley & Cropley, 2008). For example, some researchers found certain personality characteristics to be associated with creativity (Barron & Harrington, 1981; Eysenk, 1997; Feist, 1998). Since personality traits tend to be stable over time, this suggests that individuals may possess a fixed amount of creative ability, similar to intelligence. But other researchers who approached creativity from a process perspective found that training could improve the creative output of individuals (Scott, Leritz, & Mumford, 2004).

Clarity is further obscured by ambiguity in the creativity literature. In their analysis of 90 creativity articles from refereed journals between 2001 and 2004, Plucker and colleagues (2004) found that fewer than 40% of the authors provided an explicit definition of creativity. As they noted, “when a definition of creativity is offered in the literature, it often is prefaced with an ‘oh, by the way’ tone. It is almost as if creativity researchers and practitioners are afraid that, in pinning themselves down to a concrete, operational definition, they will somehow destroy the complexity and fascination that the construct generates (and offend their peers within the field in the process)” (p. 87). Furthermore, approximately 40% of the articles implicitly defined creativity, while over 20% offered no definition at all.

Finally, evidence exists that teachers hold wide-ranging perceptions of creativity. In a study of over 1000 British teachers, most associated creativity with imagination
(88.7%) and original ideas (80.1%), approximately half associated it with thinking processes (51.9%) or divergent thinking (53.8%), and very few teachers (10.2%) believed convergent thinking was important to creativity (Fryer, 1996, p. 13).

**Creativity and the Problem of Scale**

What counts as creative? How novel and useful does a product need to be in order for people to consider it creative? Most people naturally associate creativity with (a) products having a sizeable impact on a particular field; or (b) the individuals who create such legendary products (Beghetto, 2007). This “Big-C” creativity bias contrasts sharply against the novel and appropriate products of most teachers. With very few exceptions, a teacher’s creative actions are not intended to have a significant impact on the profession as a whole. Kaufman and Beghetto (2009) argue for what they call a *four-C model of creativity*. In addition to Big-C examples, they describe: Pro-C, consistently produced professional-level creativity requiring expertise, but not groundbreaking enough to revolutionize one’s field; little-c, which produces garden-variety novelty and life hacks but does not necessarily have an impact that extends beyond a very specific local context; and mini-c, where the product is novel to its creator, but not necessarily to others as in acts of learning (J. C. Kaufman & Beghetto, 2009). Similarly, Richards (2007, 2010) introduces *everyday creativity* to describe the originality of everyday life. If creativity is to be expected of teachers and studied, then educational researchers will need to look beyond Big-C models of creativity and creative geniuses and, instead, consider “smaller-c” frames of reference that are more suited to the over 3.2 million teachers in the United States.
The problem of scale has a second meaning, as well; one that is ubiquitous to most any problem or issue in education. How do we scale up examples of success to the larger system in education? Just because teachers’ creativity tends to grow out of everyday problems and highly contextualized situations (Henrikson, 2011) does not mean that such examples are not worthy of consideration by the field. Unfortunately, however, the practical nature of teachers’ work makes these examples of creativity strongly tethered to the local contexts from which they emerge.

**Creativity and the Problem of Choice: Creative Potential vs. Creative Activity**

Is a creative solution always the best solution? Sternberg and Grigorenko’s (2004) Successful Intelligence model provides some insight into how creativity interacts with other response options available to individuals. They define successful intelligence as “the use of an integrated set of abilities needed to attain success in life, however an individual defines it, within his or her sociocultural context” (Sternberg & Grigorenko, 2004, p. 274). According to their theory, successful intelligence is made up of three sets of distinct and essential processing skills: analytical, creative, and practical. Individuals vary in their skills sets associated with each of the three dimensions, resulting in a unique intelligence profile for every individual, but the theory supports the assumption that all humans are capable of creative activity. Likewise, if an individual is comparatively lacking in one dimension, strengths in other dimensions can help the individual to compensate.

According to the Successful Intelligence model then, applying creativity to teaching would involve acting or responding in a manner that involves novelty and
imagination, but doing so would require that teachers analyze the situation and determine that a creative response is appropriate. Kaufman and Beghetto (2013) stress the importance of metacognition in creativity, likening the choice to be creative to Superman using his powers. The use of these skills is not always warranted; while Superman’s powers can be quite helpful in particular situations, actions in the style of Clark Kent are frequently adequate, if not preferred. In describing these choices between practical and creative responses, Smith and Smith (2010) explain that teachers rely heavily on practical responses “not because they don’t value innovation, but because they feel a great sense of responsibility for their charges and will not blithely venture into instructional terra incognita that might not be as effective as what is familiar” (p. 255).

Teacher Creativity

Although the importance of creativity is acknowledged in education (Dede, 2010; NACCCE, 1999), most of the research at the intersection of these two fields prioritizes “teaching for creativity,” which focuses on the development of students’ creativity; the body of literature that examines teachers’ creativity is comparatively small. Lest the reader deduce from this imbalance that teaching is a profession that does not require creativity, Woods (1990) suggested that the historical lack of specific attention to creativity in research on teaching may reveal an assumption: “that teachers, almost by definition, are themselves creative” (p. 28). Perhaps the notion that teaching requires creativity may have been so obvious to education researchers that they did not feel it warranted special attention.
In spite of this, Woods (1990) embarked on his own exploration of the topic with British primary school teachers, concluding that creativity exhibited by teachers involved innovation, ownership, control, and relevance. Other work by Woods and Jeffrey (1996) found that creative primary teachers were independent and passionate, morally and politically invested in their work, and simultaneously teacher- and student-centered. Further, they characterized the NACCCE’s (1999) distinction between teaching for creativity and teaching creatively as an artificial bifurcation, emphasizing that teaching creatively is a part of teaching for creativity and leads to teaching for creativity (Jeffrey & Craft, 2004).

In one of the most extensive studies on teacher perceptions about creativity to date, Fryer (1996) studied over one thousand British teachers from 57 primary schools, secondary schools and colleges. As part of her study, Fryer employed Torrance’s Personality Checklist, which includes 66 adjectives or characteristics, asking teachers to check the five characteristics that were most like them, as well as the five characteristics that were least like them. Similar methodologies had been used by others to explore teacher attitudes about student characteristics that align with creativity (Beghetto, 2009). Of the 66 characteristics on the list, Torrance identified nine to be most heavily associated with creativity, but very few teachers in Fryer’s study identified these as characteristics most like them: Courageous in convictions (5.4%); Curious, searching (7.8%); Independent in judgement (5.4%); Independent in thinking (12.5%); Intuitive (12.1%); Becoming preoccupied with tasks (6.0%); Unwilling to accept things on mere say-so (9.8%); Visionary, idealistic (5.0%); and Willing to take risks (6.8%). Instead, teachers primarily chose social descriptors to describe themselves: Sense of humor
(36%); Considerate (28%); Emotionally sensitive (20%); Industrious, busy (19%); and
Affectionate (16%). And while 94% of the teachers believed that having a creative
teacher is helpful in developing children’s creativity, they failed to identify themselves as
creative (Fryer, 1996).

Fryer (1996) also noted a range in teachers’ perceptions about what constitutes
creativity, and this variability has been confirmed in numerous studies (Mullet,
Willerson, Lamb, & Kettler, 2016). One theme that emerges in these studies is that
teachers and creativity researchers perceive and define creativity differently (Mullet et
al., 2016; Smith & Smith, 2010). The work of Smith and Smith (2010) is noteworthy;
they interviewed small groups of teachers and principals, asking about the kinds of
creative activities in which they engage in their schools or classrooms. The teachers they
interviewed shared responses that included examples of teaching for creativity and
creativity for teaching, supporting the notion that these two lines of inquiry may be more
integrated than separate (Smith & Smith, 2010).

Definitional components of novelty and quality differed from creativity
researchers’ conceptions of these constructs. With respect to novelty, teachers described
themselves as being creative when they employed techniques or facilitated activities that
were new to them. It did not matter if they developed the activity themselves or if they
borrowed or stole the idea from a colleague, a conference, or a textbook; if they were
trying something that they had not done before, most teachers described that as creative
teaching. Furthermore, the “value” criteria included in some definitions of creativity was
not necessarily related to quality. Teachers found value in things that did not work, as
failures frequently provide opportunities for learning. Lastly, they suggested that a
definition of creativity centered around process is most applicable to teachers, since “teachers are fundamentally engaged in process; that is what they do” (Smith & Smith, 2010, p. 258).

Narey (2006) found that exercising a broader range of creative abilities facilitated factors linked to teacher effectiveness, including reflective thought and teachers’ willingness to adapt their professional practice in the face of constraints beyond their immediate control. She employed questionnaires and interviews in which teachers shared critical incidents where they used creativity effectively. While her work is helpful in highlighting personal abilities connecting creativity and reflection, this particular focus may neglect everyday examples of “smaller-c” creativity in teaching that are more spontaneous.

Henrikson (2011) interviewed accomplished teachers who were National Teacher of the Year winners or finalists, and found that creativity and trans-disciplinary thinking influenced their practices. These accomplished teachers included novelty and effectiveness when defining creativity but did so in ways that were highly contextualized and teacher-specific. They noted the importance of creativity to personal pursuits outside of teaching and found ways to integrate these interests with their teaching; creativity was part of who they were, not simply a tool for effective teaching.

In summary, these studies highlight that teachers’ definitions of creativity can vary widely from one another and differ somewhat from definitions held by creativity researchers. Although teacher creativity has been studied in primary schools, a gap exists examining this construct in teachers of middle and upper grades, where there exists a greater emphasis on student mastery of content, and high-stakes assessments may limit
teachers’ perceptions about the control and ownership they have over curriculum. Teacher creativity has been linked to reflective practice and effectiveness, but the emphasis on reflection may neglect “smaller-c” examples of creativity that seemingly emerge spontaneously in the complexities of classroom activity. Creativity has been studied in highly accomplished teachers, but this neglects its application by teachers whose skill sets reflect the norm, rather than the exception.

**Teacher Effectiveness Requires Creativity for Teaching**

Although relatively few studies have explicitly examined teacher creativity, creativity is frequently found in education research, masquerading under other names. In particular, research on teacher effectiveness implies that teachers need to engage in creative processes, though education researchers rarely use the term “creativity.” There are many theories about what constitutes good or effective teaching, and teacher expertise has been studied extensively. Adaptive expertise (Schwartz, Bransford, & Sears, 2005) is one framework that has been applied to teaching which may be a stand-in for creativity; I have selected it to highlight the prominent role creativity plays in teaching, even when it is not referenced by name. After describing the fundamental aspects of adaptive expertise, I will highlight how research on creative processes connects to this framework and then discuss environmental factors that may influence creativity, innovation, and adaptive expertise in both supportive and discouraging ways.

Particularly relevant to creativity for teaching is the work of Schwartz, Bransford and Sears (2005) on adaptive expertise, which they describe as a combination of processes along two orthogonal dimensions: The horizontal dimension represents
Efficiency and the vertical dimension represents innovation. Teachers who are high on the efficiency dimension have developed effective routines for managing activities of the classroom. The knowledge that these individuals possess is well-organized and easily retrieved to solve problems. Experts along this dimension have developed automaticity to their activity, where they quickly recognize patterns and can react appropriately.

Efficiency is certainly a necessity for teachers when handling the complexities of classroom life. Experts in the efficiency dimension, what Hatano and Inagaki (1986) refer to as routine experts, develop a set of core competencies that they can perform with consistency. Much of the focus in education research has been on developing efficiency in teachers, so that teachers can, through experience and reflection, make the problems that emerge in classroom life “become ‘routine’ and easy to solve later” (Schwartz et al., 2005, p. 41). Efficiency and routine, however, contrast starkly with the novelty required for creativity. As Bransford and others (2005) note, “efficiency-oriented practice is often about ‘problem elimination’ rather than about in-depth, sustained problem solving” (p. 50).

Schwarz and colleagues (2005) therefore suggest the necessity of a vertical dimension, innovation, to complement efficiencies in practice. In her study of conversations within professional learning communities, Little (2003) observed a tension between efficiency and innovation for teachers, stating, “the force of tradition and the lure of innovation seem simultaneously and complexly at play in the teachers’ everyday talk. Habitual ways of thinking or acting coincide closely with moments of surprise (‘aha’); the impulse to question practice resonates against the press simply to get on with
it” (pp. 939-940). Adaptive experts use their highly developed routines and efficiencies to recapture cognitive space for innovation.

How do people depart from efficiency in order to innovate? Creative process models provide some insight into this question. One of the most renowned process models is Creative Problem Solving (CPS), originally developed by Osborn (1953). Osborn’s initial model proposed a seven-step process; over the years, the process has been revised several times, reorganizing or clustering specific steps, to better reflect researchers’ understandings of how creative products are spawned and how CPS is used by individuals and groups. Through its many iterations, CPS has maintained a number of characteristics. Depending on whether CPS was presented as either a linear or iterative process, the initial step or prerequisite involves a sensitivity to the existence of “problems,” “messes,” or “opportunities” on the part of the individual. The recommended sequence or cycle of steps that follows equips the user with strategies for the following: making sense of the situation; identifying a specific problem; generating, selecting and then implementing possible solutions; and reflecting on the outcome. Each step includes both divergent thinking, as judgment is withheld and multiple possibilities are identified, and convergent thinking, as options are analyzed (Isaksen & Treffinger, 2004).

Despite its absence from the literature on teaching, CPS and creative processes seem especially relevant to the work of teachers. As Ball and Cohen (1999) suggest, “teaching requires improvisation, conjecturing, experimenting, and assessing. Teachers must be able to adapt and develop practice” (p. 10). Note how the innovation and efficiency of adaptive expertise require this creative process. In order to innovate, the
teacher allows himself to become a temporary novice, recognizing an opportunity, departing from routine and attempting something novel in his practice. This may be a planned classroom activity that the teacher has not attempted before, or it may be in the flow of classroom activity as the teacher departs from her plan in response to newly surfaced student questions or misconceptions. In either case, the choice to innovate is simultaneously dependent on efficiencies and routines. In the first case, when planning a new activity, rarely does an activity emerge from scratch; instead, the teacher, having determined that existing activities are not appropriate to her goals for student learning, frequently cobbles together bits and adaptations of other activities to create something novel and appropriate to the problem at hand. The teacher’s knowledge—of content, pedagogy, students and routines—is brought to bear in such a way that a new problem is solved by reducing it to a combination of old problems. In the second case, the teacher’s expertise along the efficiency dimension allows her to recognize an opportunity that does not fit the routine. Experts in all fields, including teaching, have highly developed schema which allow them to comprehend patterns of expected behavior, and therefore notice very quickly when something does not fit the expected pattern (Berliner, 2001). Having established routines allows teachers to identify opportunities for creativity and permit certain classroom activities to carry on effortlessly while the teacher attends to newly identified problems.

What influences decisions about whether to take an innovative and creative approach or an efficient and practical approach? Some researchers have studied how environmental factors play a pivotal role in encouraging or impeding the creativity of individuals and organizations (Puccio & Cabra, 2010). As an example, Amabile (1996,
identified several environmental stimulants to creativity, including the following:

- control over one’s work and freedom to decide how to accomplish tasks;
- “an atmosphere where innovation is prized and failure is not fatal;”
- leadership that encourages, serves as a role model and sets direction “without managing too tightly;”
- sufficient resources;
- encouragement and an environment free from “threatening evaluation;”
- cooperation and collaboration across levels and groups within the organization;
- sufficient time to think about perspectives and approaches;
- challenging work that is intrinsically interesting or important to the organization.

Conversely, “creativity killers,” such as the expectation of critical, intimidating and non-constructive evaluation; extrinsic rewards; time constraints; surveillance; and competition can have a negative impact on the creativity of individuals and the organizations in which they work (Hennessey, 2007). In order for teachers to introduce novel ideas into their practices or accept and adopt the novel practices of colleagues, it follows that teachers would need to feel empowered to make such decisions and feel safe and supported by the organization and its leaders in taking the calculated risks associated with creative activity. Current accountability measures certainly pose threats to teacher
creativity. When facing high-risk situations, most individuals and organizations become more conservative, in spite of compelling indicators that innovation is needed (Ekvall, 1997).

Themes consistent with these creativity stimulants and inhibitors abound in the education literature. Trust (Bryk & Schneider, 2002; Bryk, Sebring, Allensworth, Suppescu, & Easton, 2010), autonomy and control (Ingersoll, 2003); leadership and organizational management (Hargreaves & Fullan, 2012; Heifetz & Linsky, 2002; Spillane, 2006); collaboration (Hargreaves, 1994; Little, 2003; Supovitz & Christman, 2005); and evaluative practices and professional growth (Danielson, 2007; Darling-Hammond & Sykes, 1999; Little, 1990) are well documented in education literature despite a lack of explicit connections to creativity. Evidence exists that teacher efforts to innovate may be supported or curtailed by parents (Remillard & Jackson, 2006), students (Woods, 1990), researchers (Cohen, 1990), colleagues (Hargreaves, 1994), or administrators (Bryk & Schneider, 2002; Lortie, 1975). In summary, although it does not contain any explicit references to creativity, adaptive expertise highlights the prominence of creativity in the work of teachers.

**Danielson’s Framework for Teaching**

The complex everyday work of teachers covers a variety of tasks and skills in many domains. Danielson (2007) developed another popular framework which I will use as a tool to unpack areas in which teachers might demonstrate creativity. I chose this tool because it is comprehensive, known to many educators and researchers, and addresses the work of teaching both inside and outside the classroom. Admittedly, there are other
frameworks as well (see for example, Marzano, 2017) for organizing the work of teaching; however, Danielson’s model has garnered wide support and is used by many states, including the site of this study, as an organizing frame for structuring teacher appraisals and evaluations. In that regard, this framework is frequently used as a tool for guiding administrator-teacher conferences aimed at improving professional practice. To ensure that this study contributes to practice in addition to theory, I intend to use this framework as an analytic tool to organize data on creativity for teaching around the four domains of teaching.

*Table 1. Danielson’s Framework for Teaching (2007)*

<table>
<thead>
<tr>
<th>Domain 1: Planning and Preparation</th>
<th>Domain 2: Classroom Environment</th>
</tr>
</thead>
<tbody>
<tr>
<td>1a: Demonstrating knowledge of content and pedagogy</td>
<td>2a: Creating an environment of respect and rapport</td>
</tr>
<tr>
<td>1b: Demonstrating knowledge of students</td>
<td>2b: Establishing a culture for learning</td>
</tr>
<tr>
<td>1c: Setting instructional outcomes</td>
<td>2c: Managing classroom procedures</td>
</tr>
<tr>
<td>1d: Demonstrating knowledge of resources</td>
<td>2d: Managing student behavior</td>
</tr>
<tr>
<td>1e: Designing coherent instruction</td>
<td>2e: Organizing physical space</td>
</tr>
<tr>
<td>1f: Designing student assessments</td>
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</tbody>
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<table>
<thead>
<tr>
<th>Domain 3: Instruction</th>
<th>Domain 4: Professional Responsibilities</th>
</tr>
</thead>
<tbody>
<tr>
<td>3a: Communicating with students</td>
<td>4a: Reflecting on teaching</td>
</tr>
<tr>
<td>3b: Using questioning and discussion techniques</td>
<td>4b: Maintaining accurate records</td>
</tr>
<tr>
<td>3c: Engaging students in learning</td>
<td>4c: Communicating with families</td>
</tr>
<tr>
<td>3d: Using assessment in instruction</td>
<td>4d: Participating in a professional community</td>
</tr>
<tr>
<td>3e: Demonstrating flexibility and responsiveness</td>
<td>4e: Growing and developing professionally</td>
</tr>
<tr>
<td></td>
<td>4f: Showing professionalism</td>
</tr>
</tbody>
</table>

Danielson (2007) developed her Framework for Teaching (Table 1) to organize the complex array of teachers’ professional activities. Her framework divides the complex activities of teaching into four domains: (1) Planning and Preparation; (2) The
In this section, I will address each of Danielson’s domains in order. For each one, I will both point out areas where I believe there is potential for teacher creativity and note where others have conducted related research.

In Domain 1, Planning and Preparation, three of the six components address various kinds of knowledge teachers are expected to use in their work. Amabile (1996) notes domain-relevant skills, including knowledge from one’s field, as essential for creative activity. The more robust a teacher’s fund of knowledge, the more alternatives and combinations that exist in which the teacher may produce something novel and appropriate. In fact, two of the remaining three components in Domain 1 explicitly charge teachers with designing instruction and assessment (Danielson, 2007). The verb choice here, designing, suggests that creativity is expected of teachers in their planning and preparation, and it implies that teachers have the autonomy to make professional decisions in these areas.

Domain 2, The Classroom Environment, provides further evidence that creativity is expected of teachers. Perhaps the most extensively researched domain with respect to creativity, the classroom environment is central to the teaching for creativity literature because of the teacher’s ability to set the classroom conditions which nurture or discourage students’ creative activity. In this domain, Component 2a: Creating an environment of respect and rapport (emphasis added) explicitly acknowledges the creative activity required of teachers, where the product created is “a comfortable and respectful classroom environment that cultivates a culture for learning and creates a safe
place for risk taking” (Danielson, 2007, p. 28). One might also argue that effective relationships with students could be a creative product of teachers in this domain.

Domain 3, Instruction, encompasses a wide range of research on teaching and learning. Whereas Domain 1 focused on the teacher’s off-stage activities in advance of the lesson, Domain 3 addresses the expectations for teachers while on-stage, implementing the aforementioned plan. The emphasis here is on exchanges between teacher and students around the lesson’s content—communicating; questioning and discussion techniques; student engagement; formative assessment of student understanding; and teacher flexibility and responsiveness to student questions and needs. Sawyer (2004) referred to this interplay as disciplined improvisation, in which teachers use creativity to go beyond the teaching-as-performance metaphor. Although the teacher’s plans provide a loose script for the performance, the actual creative product emerges as the teacher and students co-construct knowledge through dialogue and engagement with each other and with content. “When we realize that creative teaching is improvisational, we see that teachers are creative professionals, requiring not only pedagogical content knowledge but also creative performance skills—the ability to effectively facilitate a group improvisation with students” (Sawyer, 2004, p.17). In their analysis of Chinese math teaching, Niu and Zhou (2010) echoed these sentiments, likening creative teaching to virtuosos in the performing arts.

Domain 4, Professional Responsibilities, reflects the expectation that teaching is a continuous process of learning and becoming, creating professional knowledge, skills, and relationships of value to self and community. Components in this domain—(4a) Reflecting on teaching; (4d) Participating in a professional community; and (4e) Growing
and developing professionally—speak to the expectations that teachers create professional knowledge, skills and relationships of value to self and their school communities. Woods (1990) asserts that a teacher’s professional development is itself a creative act, referencing the work of Nias (1988) and Mead’s (1934) conceptualization of the development of “self.”

Creativity has been shown to have both domain-general and domain-specific properties (J. C. Kaufman & Baer, 2004; Plucker & Beghetto, 2004). When speaking of domains within teaching, we frequently think in terms of content areas that divide or organize teachers -- math teachers, social studies teachers, or teachers of writing, for example. But Danielson’s (2007) Framework for Teaching provides a new way of thinking about domain-specific creativity related to teaching that has not been considered before. Analyzing teachers’ accounts of creativity for teaching according to the domains of planning and preparation, classroom environment, instruction, and professional responsibilities will provide greater specificity regarding aspects of teaching where teachers do and do not currently apply creativity to professional endeavors.

In conclusion, creativity theory and research are extremely varied and ill-defined, with lively discussion related to definition, scale and choice. A narrower approach which focuses on creativity for teaching might be helpful. Research on teacher creativity is unfortunately limited; however, it is clear that creativity plays a critical role in good or effective teaching.
Conceptual Framework: Creativity for Teaching

When studying creativity for teaching, what might be the most pertinent categories into which data could be organized and analyzed? My proposed conceptual framework (see Figure 2), draws upon the previously described literature to identify potential analytical themes for studying Creativity for Teaching. This model integrates Danielson’s Framework for Teaching (2007) and provides structure while simultaneously allowing flexibility for the complexities inherent to creativity. This framework consists of the categories (a) inspiration, (b) creative process, (c) application and environmental influences, and is presented in the shape of a flexible hourglass, where environmental factors constrict or enable the flow of the creative process, which progresses from inspiration to application. Creativity for teaching begins with a moment or activity of inspiration in some aspect of the teacher’s life—related to teaching or otherwise. After the moment of inspiration, the teacher progresses through the stages of the creative process. First, the teacher becomes aware that a problem or opportunity exists, relative to his teaching responsibilities. Reflecting on this problem leads the teacher to engage in imaginative, divergent thinking, generating possibilities to address the opportunity. Further reflection engages analytical, convergent thinking, in which the teacher selects the most appropriate response and then puts that planned response into action. This cycle of awareness, imagination, and action, propelled by reflection, revolves around the domains of teaching in Danielson’s Framework for Teaching, while environmental influences constrict or enhance the teacher’s creativity, represented by the sides of the hourglass. The teacher may continue through several iterations of this creative process.
before enacting a final solution or product that embodies some degree of novelty and usefulness for that teacher and applies to one or more of the domains of teaching.

Figure 2. Hypothesized conceptual framework of Creativity for Teaching
Inspiration

Inspiration for creative activity may occur at any time of day, in the midst of any of life’s activities that may or may not be directly tied to teaching. Therefore, inspiration draws from Danielson’s on-stage and off-stage domains, but also includes other events, activities, and ideas outside the responsibilities of teaching. In the on-stage domains of the classroom environment and instruction, inspiration may occur during the flow of classroom activity. For example, responding to student questions, conversation, and unexpected events may inspire a teacher’s activity, akin to disciplined improvisation (Sawyer, 2004). Or, student behaviors and interactions with one another might inspire a teacher to introduce novel elements to the classroom environment and routines in an attempt to improve engagement, academic risk-taking, or student creativity (Beghetto, 2009; Runco, 2003). Off-stage, while planning lessons and attempting to link lessons to real-world applications (Henrikson, 2011), or making curriculum materials more relevant to her students, a teacher may combine novel elements or make changes to curricular materials as she enacts the curriculum (Cohen, 1990). Likewise, professional responsibilities such as engaging in deep learning about subject matter or student performance like Chinese math teachers (Niu & Zhou, 2010), or collaborative activity with colleagues that is grounded in student learning rather than administrative tasks (Henrikson, 2011; Supovitz & Christman, 2005) may inspire choices that favor innovative activity over routine.

Lastly, inspiration for creative activity in teaching may very well come from events outside of one’s teaching responsibilities. Imaginative play is frequently credited with inspiring creativity in individuals (S. B. Kaufman & Gregoire, 2015); accomplished
teachers frequently engage in creative activities outside of teaching—music, travel, cooking and sports, for example—and find ways to connect these experiences to their teaching practices (Henrikson, 2011).

**Creative Process**

After the moment of inspiration, a teacher has the opportunity to engage in creative processes that may produce innovative, novel, and useful outcomes. While many models of creative processes exist (Cropley & Cropley, 2008; Isaksen & Treffinger, 2004; Osborn, 1953; Treffinger & Isaksen, 2005; Wallas, 1926), the process in this conceptual framework borrows from the earlier referenced TTSD Creativity Model (see Figure 1). Although TTSD focused on developing creativity in students, this creative process and the language contained therein is familiar to the teachers of TTSD. The model shows a cycle of awareness, imagination and action, with reflection guiding the individual from one phase to the next. Applied to teachers, reflecting on teaching and student learning leads the teacher to a sense of awareness, where the teacher perceives that a problem or opportunity exists related to her practice. Next, reflection related to naming and framing that problem or opportunity initiates the imagination phase, where the teacher engages her thinking to generate many potential solutions or actions to address the opportunity. Further reflection leads the teacher to select the most appropriate alternative to put into action. The teacher’s activity that ensues leads the teacher to reflect on her practices, leading to an awareness of (a) whether the problem or opportunity was solved or resolved; (b) whether the problem or opportunity needs to be
revisited, reframed or redefined; or (c) whether a new problem or opportunity has emerged.

This creative cycle revolves around Danielson’s four domains of teaching: planning and preparation, the classroom environment, instruction, and professional responsibilities. The process engages the teacher in both divergent and convergent thinking, as she considers the appropriateness of innovative and efficient responses required in adaptive expertise. The model also provides flexibility for creative processes of varying durations, from quick, almost spontaneous activity in the middle of a lesson to slow and deliberate work with a committee of colleagues. As shown, the creative process may continue through multiple iterations.

**Application**

Finally, the teacher’s action or product that contains elements of novelty and usefulness ultimately applies to her work in teaching and can again be situated amongst the Danielson domains at the bottom of the framework. Unlike inspiration, which may come from outside the field, creativity for teaching, by definition, necessitates that the previous process yield a product or action that applies to the professional work of the teacher, organized into Danielson’s four domains of Planning and Preparation, Classroom Environment, Instruction and Professional Responsibilities. Because Danielson’s Framework for Teaching has not been used to examine the creative work of teachers, little is known about whether teachers apply creativity for teaching equally across these four domains, or whether some domains are underrepresented.
The decision to choose an appropriate action or product that incorporates novelty requires metacognitive skills for determining how much novelty is required within the context-specific boundaries of appropriateness. Again, the teacher balances the risk of innovation against the responsibility she feels towards her students (Anderson, 2002). Accomplished teachers noted the importance of creativity to their professional success; many of them saw the application of creativity to their craft as “a way of thinking or an ongoing mindset” (Henrikson, 2011, p. 70). This provides some insight into how some teachers may persevere by applying their own creativity for teaching in spite of tremendous obstacles.

**Environmental Influences**

Lastly, this conceptual framework takes the shape of an hourglass, with environmental factors on the sides that may constrict or improve the flow of the creative process. Every teacher’s work is certainly influenced by workplace norms shaped by policy, community, and organization; however, it follows that creativity for teaching may be experienced differently by different teachers in the same organization, depending on how they, as individuals, experience and interpret these environmental factors.
CHAPTER 3
RESEARCH METHODS

Research Site

This study takes place at Tellerstown Middle School (TTMS, a pseudonym), in the Tellerstown School District (TTSD). A suburban school district in the northeastern United States, TTSD serves 6,909 students in Grades K-12, who are educated in five K-4 elementary schools, two 5-8 middle schools, and one 9-12 comprehensive high school. Tellerstown’s renowned high school is consistently ranked among the top public high schools in the state and the nation; 99% of its graduates enroll in higher education, many at highly-selective four-year colleges.

The district enjoys a stellar reputation both within and beyond its well-educated and highly involved community. Its relationship with the community is one based on mutual respect and support for academic success. District curricular and co-curricular programs are extensive and adequately supplied with physical, human, intellectual, and monetary resources. At the time of this study, TTSD employed 485.4 instructional staff members, who averaged 12.34 years of teaching experience in-district. 82.4% of its teachers earned advanced degrees. There has never been a teachers’ strike in the history of the district. Teachers are highly involved in district decision-making. Teacher representatives from all levels serve on curriculum standing committees, as well as advisory committees for staff development, diversity, safety, and strategic planning at the building and district levels. Teachers take an active role reviewing and selecting textbooks, as well as writing district curriculum documents.
Tellerstown Middle School is one of two middle schools in the district, serving 1178 students in Grades 5-8. A typical student is enrolled in daily core classes for English/Language Arts (ELA), Math, Science, and Social Studies. Students in Grades 7 and 8 also have a daily Spanish or French class, while fifth and sixth graders have an additional core class in Reading. Core teachers’ state certifications vary. Some have elementary certifications, while others have mid-level or secondary certifications in one or more specific subject areas. Teachers are grouped into grade level teams who share responsibility for a subset of students. All teachers are responsible for teaching five classes per day; in all cases, teachers’ classes are oriented to one or sometimes two curricular areas. In addition to the core classes, students participate in a rotation of special area classes in Health, Physical Education, Art, Music, Family & Consumer Science, and Technology Education. All teachers are considered “highly qualified” by the state, in that none are uncertified or teaching outside of their area(s) of certification.

The decision to ground this proposed study at this site was based on three important factors. First, TTSD has been emphasizing the importance of creativity for its students for more than ten years. Because popular myths and ambiguity associated with its definition make creativity frequently misunderstood, working with teachers who have developed or worked with a framework for creativity that is grounded in shared language and understanding of the concept decreases the likelihood that differences in teacher responses would stem from misperceptions about creativity itself.

Second, Amabile’s (1996) findings regarding environmental stimulants to creativity suggest that a study examining teacher creativity might be more productive where teachers have a high degree of autonomy in their work. Unfortunately, the current
reality of high-stakes standardized testing and the pressures associated with related accountability measures can stifle teacher creativity when it may be needed most. Situating a study on teacher creativity in a district with high student achievement and high degrees of teacher autonomy may increase the likelihood that teachers feel free to use creativity in their work. This is not to say that the teachers in TTMS are more creative than teachers in other locations. One of the underlying assumptions of this study is that all humans—and therefore all teachers—possess the ability to be creative; where individuals differ with respect to creativity is the frequency with which they choose to apply their creative abilities. In order to understand how creativity might be used by teachers, it was helpful to select a site where known environmental inhibitors to creativity are minimized.

Third, TTMS was selected because of my relationship with the school and district, thereby presenting a unique opportunity for me to act as a researcher with both insider and outsider perspectives on the study. As an assistant principal at TTMS for nine years, I have built a sufficient amount of relational trust with the staff through my supervisory role; I believed they would be honest with me about their thoughts and feel comfortable in declining to participate without fearing negative consequences. There is always an inherent risk that some of the creative activities in which teachers engage have become incorporated into their routines to the point that a teacher may no longer be metacognitively aware of these activities. In this regard, there was value in having a researcher with an insider’s knowledge of the participants. At the same time, it has been thirteen years since I was in the classroom as a teacher, engaging with students and content on a daily basis, so I possessed some distance when researching and describing
the work of these teachers. I hoped that my insider/outsider positionality would lead to a more robust analysis that could help other school administrators in their efforts to support creativity for teaching.

**Participant Selection**

With the approval of the TTSD Superintendent, participant selection began in August, 2018. At a building faculty meeting, I was joined by the building principal as I introduced the proposed study to the teachers of TTMS and invited teachers to participate. I provided an overview of the study’s goals and its value to the district, along with the anticipated time commitment, benefits, risks, and protective factors for individuals who might choose to participate. Following the meeting, I sent an email to each eligible teacher containing a written overview of the talking points from the meeting, along with a formal invitation to participate. Eligible to participate were TTMS teachers currently teaching English/Language Arts (ELA), Math, Science, Social Studies, Art, and Music. From this group, long-term substitute teachers were excluded from participating, as their employment status may have made them more vulnerable to coercion or undue influence.

Two weeks later I sent a second follow-up email with the invitation to participate to all teachers who did not reply to the initial invitation. Seventeen teachers indicated a willingness to participate; I thanked them for their interest, entered them into a pool of candidates for consideration, and provided them with appropriate consent forms to sign and return.
Dukes (1984) suggests working with three to 10 participants for phenomenology research and Creswell (2007) recommends working with 20 to 30 for grounded theory research. This study blended these two approaches. From the initial pool of 17 candidates, purposeful sampling was used to identify eight teachers for participation in an interview-artifact-interview sequence of data collection activities (Phases One and Two of this study) in order to “collect extensive detail about each…individual studied” (Creswell, 2007, p. 126). Four teachers represented a cross-section of the faculty containing one teacher from each core subject area of Math, English/Language arts, Social Studies, and Science that simultaneously included a teacher from each Grade 5-8. Two additional teachers were selected from the special areas of Art and Music, more traditionally associated with creativity. Finally, two more core teachers were added to the sample to ensure that the group represented a range of number of years’ teaching experience and an equal distribution of male and female participants. Any teacher volunteers who were assigned to me for their formal observations and annual performance appraisal were excluded from the interview-artifact-interview sequence of data collection activities. NACCCE (1999) connected teaching creatively with teacher effectiveness. The participants in this study were not selected because of any extraordinary demonstrations of creativity; neither were they selected because of outstanding professional accomplishments. All eligible teachers were, however, considered competent, capable, and good teachers, as evidenced by a history of semi-annual and annual performance ratings at the satisfactory or distinguished level. A description of the eight primary participants with pseudonyms is provided in Table 2.
The remaining nine teachers from the pool of candidates who did not participate in the interview-artifact-interview sequence were selected for participation in one of five focus group interviews (Phase Three of the study). Enrollment in the study remained open through the last focus group interview in December, 2018. During this time, 10 additional teachers volunteered to participate in focus group interviews. Focus group interviews with a minimum of three teachers were scheduled in November and December, 2018, homogeneously grouped by Math, ELA, Science, Social Studies, and the Arts (Art and Music). Four volunteers for focus group interviews withdrew from the study due to unresolvable schedule conflicts with the scheduled date and time for the interview, leaving exactly three teachers to participate in each of the five focus groups.

Table 2. Participant pseudonyms* and descriptions, Phases One and Two

<table>
<thead>
<tr>
<th>Name*</th>
<th>Subject(s)</th>
<th>Grade(s)</th>
<th>Years of Teaching Experience</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alyssa</td>
<td>Social Studies</td>
<td>7,8</td>
<td>15</td>
</tr>
<tr>
<td>Elizabeth</td>
<td>ELA</td>
<td>6</td>
<td>22</td>
</tr>
<tr>
<td>Irene</td>
<td>Art</td>
<td>5, 6, 8</td>
<td>26</td>
</tr>
<tr>
<td>Nate</td>
<td>Science</td>
<td>6</td>
<td>35</td>
</tr>
<tr>
<td>Nicole</td>
<td>ELA</td>
<td>5</td>
<td>20</td>
</tr>
<tr>
<td>Owen</td>
<td>Music</td>
<td>5, 6, 7, 8</td>
<td>10</td>
</tr>
<tr>
<td>Ron</td>
<td>Math</td>
<td>7</td>
<td>14</td>
</tr>
<tr>
<td>Steve</td>
<td>ELA, Science</td>
<td>7</td>
<td>10</td>
</tr>
</tbody>
</table>

Data Collection

This study drew extensively from qualitative research methods, seeking to understand creativity for teaching. Creswell (2009) notes, “if a concept or phenomenon needs to be understood because little research has been done on it, then it merits a
qualitative approach” (p. 18). Including multiple and triangulated methods enables “thick description” (Ravitch & Carl, 2016); this study collected data through a series of two semi-structured individuals interviews, a 10-day log completed by individual participants, and semi-structured focus group interviews that were organized by subject matter.

Interviews are a critical component of qualitative research (Creswell, 2007), and I conducted a series of two semi-structured interviews with the eight selected teacher participants from Phases One and Two. Maxwell (2005) adds that transcribed interviews provide “rich” data that allow for more specific analysis than researcher notes from interviews would provide. With the permission of participants, I audio recorded these interviews so that I could more accurately represent their input in the data for analysis, and more explicitly share evidence to support the study’s findings. “Intensive, long-term involvement” (Maxwell, 2005, p. 110) improves the trustworthiness of qualitative research, so interviewing the same sample of eight teachers twice over a three-month period of time allowed me more time with each individual teacher and the opportunity for important interview questions to evolve according to this emic study design.

Maxwell (2005) also suggests that repeated observation accompany multiple interviews as part of intensive, long-term involvement to aid triangulation through different kinds of data. The suggestion is an important one; however, this study sought an emergent understanding of creativity for teaching, as described by teachers themselves. Furthermore, a key assumption of this study was that creativity for teaching occurs beyond the space and time boundaries of classroom instruction. In lieu of observations, this study employed the use of a daily creativity log, which I asked teachers to complete five to 10 times over a period of three weeks. This creativity log was the
focus of the second teacher interview, where participants discussed emerging relationships between the data they provided through the logs and the data they provided earlier in their first interview.

Finally, I conducted semi-structured focus group interviews to provide a third kind of data for triangulation. Focus group interviews provide several advantages (Yin, 2016). First, they allow efficiencies to be realized, where a range of perspectives can be surveyed within a single group interview. Second, they allow synergy to develop, as participants respond to the questions and one another’s responses. When considering a concept like creativity, which teachers may not readily attribute or connect to their own work by that specific name, a group may be helpful in fleshing out examples in each domain that come from the participants, rather than reflecting the researcher’s own ideas about the subject. Third, focus groups allow for the collection of data that is culturally mediated, reflecting the collective norms of the focus group participants. Admittedly, this may also inhibit some members from voicing dissenting perspectives from the group’s consensus, but these cultural dynamics were important to probe in order to better understand how environmental influences may influence creativity for teaching.

Throughout the study, I also wrote researcher memos to reflect and document my emerging understanding of creativity for teaching. Krefting (1991) emphasizes importance of memos to make researchers aware of their own biases and preconceived assumptions, and also to record ideas, thoughts, questions, problems, and hypotheses. While these memos were not a direct data source from teachers, they helped to inform the interview protocols in subsequent phases of the research design, so that appropriate adjustments to draft interview questions could be made.
Sequencing of Methods

As Ravitch and Carl (2016) point out, the sequencing through which data is collected “can affect both the nature and quality of data you collect” (p. 200). This includes the sequencing of data-collection methods in addition to the sequencing of questions within interview protocols. The proposed study was conducted in three phases. In this section, I will provide an overview of the sequencing of these three phases, followed by a more detailed explanation of methods and aims of each phase. The first two phases focused on eight middle school teachers’ individual accounts of creativity for teaching. In Phase One of the research, I interviewed each teacher to surface pre-existing ideas about what they thought creativity is and how they thought creativity applied to their work as teachers. In Phase Two, these same eight teachers completed a daily CFT Log five to ten times over a three-week period, and then they participated in a second interview to discuss their daily logs. The third and final phase included other teachers from TTMS who participated in one of five focus group interviews, organized homogeneously by subject area.

Phase One- Exploratory Interviews About Creativity

The purpose of this phase was to explore teachers’ conceptions about creativity and how creativity relates to their work as teachers. Each teacher participated in a 45-minute semi-structured interview (see Appendix A). After some initial warm-up questions, this interview asked each teacher how he or she defines creativity to situate their future responses in relation to the many disparate definitions for creativity that exist. The next three questions featured a critical incident technique in which teachers recalled
and reflected on the following: (a) a creative example from their own practice; (b) a creative example from another teacher; and (c) an example from their own practice of something that does or did NOT involve being creative. In this regard, the questions prompted teachers to consider creativity from multiple perspectives—self, other, example, and non-example—which combined to provide a more robust description of the phenomenon. Maxwell (2005) suggests looking for discrepant evidence and negative cases during analysis, so including a non-example in the discussion provided a third vantage point for considering Creativity for Teaching. Lastly, the sequencing of questions moved from self to other; if an extremely creative colleague quickly came to mind, then asking about that colleague’s creativity first might have made the participant reluctant to share personal examples of creativity that were smaller in scale. The interview concluded by asking teachers their opinions about the importance of creativity.

**Phase Two- Artifact Generation and Second Interview with 8 Teachers**

Because the Phase One critical incident technique may skew data towards “Big-C” creativity examples, Phase Two focused on everyday examples of CFT through a teacher-generated log/questionnaire (see Appendix B) and follow-up interview (see Appendix C). First, participants completed a daily electronic log and mini questionnaire for five to ten days over a three-week period. Each day participants were prompted to take a moment to reflect on their activities as teachers over the last 24 hours—in the classrooms, hallways, staffrooms or meetings at school, as well as their activities related to teaching at home, in their cars, online or any other spaces outside of the school building. Then they were asked to indicate whether, over the last 24 hours, they applied
creativity to any of 11 common teacher activities across the four Danielson (2007) domains. The second part of the daily log gave teachers my own tentative definition of creativity for teaching: imaginative activity, fashioned, so as to produce appropriate actions or outcomes associated with the professional work of teaching that contains elements of novelty and value for the individual teacher. Because individuals may hold very different ideas about what creativity is, teachers were provided with a common definition so that the examples they generated to illustrate creativity for teaching would be tethered to a common frame.

This definition blended elements of the NACCCE (1999) definition for creativity with Richards’ (2007) definition of everyday creativity. In common definitions of creativity, novelty is always accompanied by a second characteristic, but researchers use different terminology when naming this factor; appropriateness, usefulness, and value are the most commonly used terms. Appropriateness was eliminated as a term in this study’s definition for CFT in an early pilot, as teachers balked because of the moral overtones existing in the word. More accurately, “inappropriate” was a difficult term for teachers to associate with their practices, since inappropriate conduct may result in a teacher looking for a new profession. As a result, “appropriate” did not work as a determinant characteristic for CFT since teachers saw all of their activity as appropriate. This term was changed to “useful” in a subsequent pilot. And while “useful” eliminated the moral overtones present in “appropriate,” it still presented challenges for teacher reflection. The term prompted teachers to think of this characteristic as a binary variable, and it influenced teachers’ reflections toward a strictly utilitarian interpretation of CFT. Ultimately, “value” was selected as the second characteristic in this study, as the term
allowed for a broader range of interpretations beyond a binary yes/no response and it
allowed for utilitarian and idealistic conceptualizations of CFT.

Following the given the definition for CFT, the teacher was again prompted to
reflect on his or her activity over the past 24 hours and record a brief description of one
thing he or she did as a teacher over that 24-hour period of time that embodied the stated
definition of creativity for teaching. Lastly, teachers responded to a brief questionnaire
about the novelty and value of the incident they described, indicating which of 13
descriptive statements applied to their example.

After the electronic creativity for teaching log and questionnaire was completed,
the set of logs from each participant was collected reviewed by the researcher, and then
these eight teachers participated in a second 45-minute semi-structured interview. The
purpose of the second interview was to obtain more detailed information about at least
one of the log entries, discuss any patterns or trends that emerged from the participant’s
log entries, and make comparisons against the critical incidents discussed in the first
interview.

**Phase Three- Subject Area Focus Groups**

The study concluded with 5 audiotaped one-hour semi-structured focus group
interviews, organized by subject area, and open to any TTMS teachers who were not
included in Phases One and Two. Teachers who taught multiple subject areas were free
to choose which focus group interview they attended. By scheduling these focus group
interviews in the final phase and revising the focus group interview questions and
protocol after completing Phases One and Two, I was able to use these groups to
investigate potential themes that had begun to emerge from earlier-collected data. Furthermore, organizing the groups by subject area allowed me to investigate similarities and differences in how teachers conceptualized and applied CFT across subject areas. A script of interview questions for the focus group interviews is provided in Appendix D. Creativity theorists have shown creativity to have domain-general and domain-specific properties (Amabile, 1996; Baer & Kaufman, 2005; Baer, 2010); if creativity for teaching follows suit, I would expect some differences to exist based on the content and pedagogy associated with various academic disciplines. The purposeful sampling of participants for inclusion in Phases One and Two may have exposed some of these differences; however, the small sample size made it difficult to attribute differences to discourses and norms associated with subject areas. The focus groups in Phase Three allowed me to continue collecting data across a wider sample of the professional staff while simultaneously using the focus groups for member checks related to emerging themes and theories.

Confidentiality, Protection of Human Subjects, and Host District Expectations

All data—including audio recordings of interviews, transcriptions of interviews, teacher logs and researcher memos—was stored on the researcher’s password-protected computer and backed up on the researcher’s password-protected cloud storage. Transcriptions and any publications used pseudonyms to protect the identity of individual participants.

Participation in this study was voluntary and came with no monetary compensation. As a token of appreciation, participants who completed five log entries
and two interviews were presented with a $20 gift card to a coffee shop upon completion of the second interview. In addition, participants were told that those who completed 10 or more log entries would be entered into a drawing for an additional $40 gift card to Target. None of the participants completed 10 log entries. There was no compensation for teachers who participated in a focus group interview. All participants signed a release indicating their informed consent to participate in the study. Individuals were informed that they could withdraw their consent or discontinue their participation at any time, and they could decline to answer any questions for any reason. Participants were also informed that they could refuse to be audiotaped at any time.

In accordance with the host district’s policy and regulation on conducting educational research studies, this written proposal was submitted for review by the district Superintendent of Schools and approved under the following conditions:

1. Any changes to the proposed study must also be reviewed and approved by the Superintendent of Schools before beginning the study.

2. All interview (individual, focus group, and log questionnaire) protocols, including questions to be asked, will be submitted for review and approval by the Superintendent of Schools before such interviews may be conducted.

3. Identifiable district, school and individual teacher names will not be used, and will instead be referred to as needed by pseudonyms. District, school and teacher names may not be identified in any publication without prior permission of the Superintendent of Schools and the individual, if applicable.

4. A copy of the completed study will be shared with the Superintendent of Schools.
Logic Model

Table 3 presents a logic model that demonstrates how multiple data sources connected to each of the three research questions for this proposed study.

Table 3. Logic model for studying Creativity for Teaching (CFT)

<table>
<thead>
<tr>
<th>Research Question</th>
<th>Data Sources</th>
</tr>
</thead>
</table>
| Q1: In what ways and to what extent do teachers see themselves, their work and their profession as creative? | • Interview 1 & 2  
• Daily Creativity Logs  
• Subj Area Focus Groups  
• Researcher Memos |
| • In which aspects of their professional lives do they apply creativity?         |                                                   |
| • In which aspects of their professional lives do they NOT apply creativity?     |                                                   |
| • To what extent do teachers’ perceptions of creativity vary by subject area?    |                                                   |
| Q2: In what ways and to what extent do teachers see their colleagues’ work as creative? | • Interview 1  
• Subj Area Focus Groups  
• Researcher Memos |
| • In which aspects of their professional lives do they envision their colleagues applying creativity? |                                                   |
| • In which aspects of their professional lives do they envision their colleagues NOT applying creativity? |                                                   |
| Q3: What do teachers cite as factors that inspire and influence their creativity? | • Interview 1  
• Interview 2  
• Log questionnaire  
• Subj Area Focus Groups  
• Researcher Memos |

Analytical Methods

In order to avoid oversimplifying or trivializing the context-dependent disciplines of creativity and teaching, my analytical methods attempted to honor the multiplicities
inherent in exploring the intersection between these fields. My hypothesized conceptual framework represented my own ideas about how inspiration, creative processes, application, and environmental factors relate to one another in creativity for teaching. At the same time, I needed to remain open to teachers’ own accounts of creativity for teaching, since an important part of this project was to serve as a mouthpiece for teachers, enabling them to contribute to the body of professional knowledge by describing the phenomenon as they see and experience it.

Creswell (2007, pp. 150-151) describes a “data analysis spiral” for qualitative research, where the researcher moves through a progression of managing data; reading and memoing; describing, classifying and interpreting; and finally, representing and visualizing. Each phase of data collection in this study presented an opportunity to understand the data through this spiraling process, thereby identifying clarifying questions about emerging themes to incorporate into the interview protocols for subsequent phases of the study.

After each phase of data collection in this proposed study, I began with provisional coding (Creswell, 2007) grounded in themes from existing frameworks discussed earlier. Provisional coding of interviews and CFT log examples included the following:

- Novelty and Value
- First impressions
- Inspiration, Application, Environmental Influences
- Planning/Preparation; Classroom Environment; Instruction; and Professional Responsibilities
• Creative Product, Creative Process, Creative Person
• Examples: Self, Other, non-example
• Subject Matter (ELA, Math, Science, Social Studies, Art, Music)
• Factors that influence CFT (supportive, constraining)

Next, I returned to the data sources. After listening to recorded interviews and several rounds of reading and re-reading transcribed interviews and interviewer memos in each phase, I wrote reflective memos about each of the research questions, as well as categories, themes, and questions that emerged from the data. The following themes, stories, and tensions emerged were identified:

• Frames of reference: self/other, teacher/student
• Tensions: Product/Process, Big-C/little-c, visible/invisible, novelty/value, CORE subjects/the Arts
• Creativity as mindset/stance/choice
• “I’m not creative”

**Researcher Roles, Positionality and Validity**

As described in greater detail in earlier sections—Personal Interest and the Story of the Question, and Research Site—I had personal connections to the topic, site, and participants of this study that could have influenced its findings. Inherent in any qualitative research is a subjectivity that can lead to a rich understanding of context-specific phenomena but, unchecked, may result in “researcher bias” and “reactivity” (Maxwell, 2005, p. 108). Incumbent on the qualitative researcher is a duty to identify
possible biases, understand how the researcher may influence participants, and explain how the researcher and study intends to address these difficulties (Maxwell, 2005).

As a researcher, an educator, and a human being, I brought my own experiences and conceptions about creativity and teaching to this study. My earlier-stated definition of creativity for teaching and my hypothesized conceptual framework explicitly address the problem of definition that confounds research on creativity. These elements served as starting points for dialogue about creativity and were grounded in my personal understanding of prior work in the district related to creativity. But teachers likely have different interpretations about creativity and its application to their professional work. Miles and Huberman (1994) note the potential that exists for researchers to select data that fits their preconceptions. As such, I needed to remain open to teachers’ accounts of creativity for teaching that differ from my own.

My twenty years of experience in multiple roles in TTSD provided me with extensive knowledge of the institution’s history. But teaching is a cultural activity, and patterns of behavior in teaching are often unquestioned and invisible to participants until one steps out of his or her own culture (Stigler & Hiebert, 1999). A truthful inquiry into creativity for teaching requires acknowledgment and critical examination of deficits that accompany an appreciation of creative expression. To address this need to see familiar events with new eyes, I enlisted the help of two critical friends from Penn GSE’s doctoral program. One was a GSE graduate who is also a retired teacher from TTSD. While she understands the culture and work of TTSD, she did not serve in an administrative role, she did not teach at TTMS, and she also possessed distance from the time when she was immersed in that culture. The second critical friend was a current doctoral candidate with
no past or present connections to TTSD. Both were be able to encourage and help me
“[search] for discrepant evidence and negative cases” (Maxwell, 2005, p. 112).

Lastly, I needed to be mindful of my relationship with the participants. Although
the study design allowed for rich data through semi-structured interviews, “what the
informant says is always influenced by the interviewer and the interview situation”
(Maxwell, 2005, p. 109). Because I was an assistant principal studying a phenomenon as
described by teachers in my own building, the power relationships inherent in this kind of
study required precautions to minimize risk to participants and minimize discomfort in
sharing openly. A proctor from the TTSD central administration office was secured for
the study; the Director of Curriculum and Staff Development was named on the
participant consent form as an individual outside of the building that participants could
approach at any time to express any concerns related to their participation in the study.
Protocols for interviews and data collection tools were to be piloted for content and
emotional impact. Protocols permitted participants to select a preferred location and time
for individual interviews; group interviews were conducted in classrooms, not in the
researcher’s office or the school’s main office. The study design used triangulation to
collect and compare accounts of creativity for teaching from varied perspectives: self vs.
other teacher; critical incident vs. everyday creativity; individual vs. group; and example
vs. non-example. Finally, the study relied heavily on semi-structured interviews, where
my insider knowledge helped with follow-up questions to clarify participants’
descriptions in their own words; access to participants also allowed me to conduct
ongoing member checks (Maxwell, 2005; Ravitch & Carl, 2016), ensuring that my
understanding of teachers’ comments is accurate.
Limitations of the Study

There are several limitations to this study. One is that the study relied heavily on self-reported data through interviews and the teacher logs. Self-reported data may over-report what participants interpret as socially desirable responses (Kirk & Miller, 1986). Considering the history of attention to creativity in TTSD and the researcher’s positionality as a school administrator, teachers may have been somewhat reluctant to openly express attitudes, opinions, or examples that oppose creative expression in teaching. A second related limitation is that the study reflects data collected entirely from volunteers. Although the focus groups required a minimal time commitment, participation in Phases One and Two required a more significant commitment of time and energy. Those who possess an intrinsic interest in creativity may have been more likely to volunteer for a study that examines creativity for teaching. Further, despite the assertion in this study that all individuals are capable of creative behavior, teachers who strongly believe that they are “not creative” may not have volunteered to participate in any of the study’s activities.

Because this was a very small study, caution should be used when interpreting the results or applying them to other teachers or settings. All participants in this study had ten or more years’ teaching experience, skewing results toward a more experienced teacher population. While some teachers reflected on their own experiences with CFT at earlier times in their careers, or on the CFT of younger or less experienced teachers, the voices of new teachers and teachers who are in the early stages of their careers are not represented in this study. Taken collectively, the accounts of the eight primary participants provided rich data across middle grades and subject areas, but applying this
data on too fine a level of detail may be problematic. In particular, assertions about subject matter should be considered with caution. The inquiry into whether teacher perceptions varied by subject matter was exploratory. Examples that highlighted differences between CFT in different subject matters merely demonstrated these differences in perceptions; data was insufficient to define CFT specific to these sub-domains of teaching. One math teacher does not speak for all math teachers, even when echoed by three other math teachers in a focus group. Furthermore, because the study included teachers of Grades 5 through 8, a range of certifications was present in the sample population. Although all teachers demonstrated some specialization, teaching clusters of courses in one or two subject areas, some teachers had secondary certifications in their subject area, accompanied by extensive study of subject matter in their certification areas, while others held elementary certifications that did not require the same extensive study of particular subject matter.

Finally, TTSD was chosen as the site of this study for several unique factors pertinent to the study of teacher creativity. This study is therefore a case study of teachers’ accounts of creativity for teaching in a high-achieving, suburban middle school that has devoted time and resources to addressing creativity as an essential skill to be nurtured in its students. It is acknowledged that TTSD is not representative of most school districts, and its teachers, collectively, likely do not represent the full spectrum of skills, attitudes and beliefs of all teachers. But creativity and teaching are highly context-dependent; the goal of this study was not to develop a list of best practices in creativity for teaching that should be replicated by educators elsewhere in order to scale up the results. Rather, this study sought to better understand teachers’ accounts of creativity for
teaching in this single school as a starting point for similar conversations and inquiries in other schools or districts, where teachers, administrators and community members can consider the findings of this study against the particulars of their own local contexts.

**Timeline for Study**

The timeline for research activities associated with this study is noted in Table 4. I wrote reflective memos throughout the process and at the conclusion of each phase to reflect on impressions, emerging themes, and questions, and those memos served as the foundation for discussion with the critical friends mentioned earlier.

*Table 4. Research timeline*

<table>
<thead>
<tr>
<th>Research Timeline</th>
<th>Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>April - May, 2018</td>
<td>Proposal hearing</td>
</tr>
<tr>
<td>May - August, 2018</td>
<td>Pilot Phase One interview questions</td>
</tr>
<tr>
<td>August - October, 2018</td>
<td>IRB submission</td>
</tr>
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CHAPTER 4

CREATIVITY FOR TEACHING AND FIRST IMPRESSIONS

“So when I think of creativity, I kind of, I think of someone who's an innovator or an entrepreneur or visionary. Someone who is original and creating new things. Or maybe someone who's artistic or... I think of someone who's getting people to look at the world in a different way, look at things in a new way that they haven't looked at it in before. And I often think of my husband who I think, he's like a visionary and just, he's an entrepreneur. He's started a couple of different businesses and just to see the way his brain works... he comes up with these amazing things out of nothing. **I don't really think of myself as a creative person.** Like, I think of myself as a leader, problem solver, caring person. I don't really think of myself as creative. And it’s interesting because I might be setting a different bar for myself than I do for other people. So when I'm trying to think of an example of things that I do that are creative, I want to think of: What's the BEST lesson I've ever done that was original and that I came up with all on my own with no ideas or input from anyone else. But I don't know that that's necessarily... I mean, I think that's a pretty high bar for creativity.”

-Alyssa

Alyssa’s reflection sets up one of the most puzzling findings of this study. She does not think of herself as a creative person. If you knew Alyssa, you would certainly agree that she is a leader, a problem solver, and a caring person. You might also see her as intelligent, responsive, flexible, dedicated, enthusiastic, engaging, reflective, passionate about her subject matter, and even fun. In short, she has the qualities of a good teacher. Yet she does not think of herself as creative.

Like Alyssa, over half of the participants in Phases One and Two of this study initially balked at the idea of associating the word “creative” with their personal or professional identities. Elizabeth described a tension she senses between creativity and her comfort with routines. “I never saw myself as creative growing up. If you asked me if
I was organized, I would say, ‘yes.’ I went to Catholic school. The school was very regimented. So now I think, ‘well, what can I do that's not [regimented]?’ But that's what I would like…it would be more comfortable to be in a routine. But over time, I think I've given myself the freedom to think more creatively…in my personal life.” Nate identified himself as a teacher who would say, “I’m not creative,” explaining that he primarily associated the descriptor “creative” with talented people who produce artistic or musical products. And Steve associated an intentionality with creative behavior that he didn’t frequently see in himself. Instead, Steve described his teaching practices as highly goal-oriented, where he typically does not set out to be creative.

Despite the inability of many teachers to see themselves as creative, all were able to identify examples of using creativity in their teaching practices. They identified creative moments in their teaching; however, these moments did not define them in ways that impacted their identity. Still, all teachers were able to engage in discussion and reflection specific to creativity and the work of teaching. These discussions surfaced three important findings related to teachers’ first impressions about CFT:

1. Teachers see creativity as important to their profession.
2. The creativity teachers see in the work of other teachers emphasized conceptions of creativity related to products and personality.
3. The personal examples that teachers initially recalled reflected high degrees of novelty, ownership, and time invested.

In light of Alyssa’s and other teachers’ comments surrounding their identities, these findings are somewhat surprising. They believe that creativity is very important in the work of teachers; as teachers, they see creativity in other teachers around them; they...
can give examples of using creativity in their own teaching responsibilities; but they
don’t think of themselves as creative. This suggests a puzzling paradox: how can
creativity be everywhere and nowhere, visible and invisible for teachers? A first pass
through the data sheds some light on what shapes teachers’ first impressions about CFT,
and how these first impressions may lead teachers not to think of themselves as creative.

Creativity Is Important In The Work Of Teachers

The twenty-three participants in this study unanimously agreed that creativity was
important for teachers, with well over 60 different reasons connected to the importance of
creativity for the profession. Teachers’ comments about the importance of creativity in
teaching revolved around six themes. They saw teacher creativity as important for
handling the complexities inherent in teaching; facilitating learning with diverse groups
of students; building and maintaining productive interpersonal relationships; developing
creativity in students; managing change; and finding personal satisfaction in a highly
structured work environment.

Handling Complexity

“Creativity is born of necessity,” remarked one participant. From the responses of
teachers throughout this study, nothing sparks necessity like being the lone adult with 20-
30 middle schoolers at a time, responsible for planning, supervising, and directing their
daily learning activities inside a classroom. Handling the complexities inherent in
teaching was a prevalent theme in why teachers saw creativity as important to their work.
Teachers addressed goals to simultaneously develop subject matter skills, interpersonal
skills, behavioral skills, organizational skills and study skills in students. Constituent
Facilitating Learning of Diverse Groups of Students

A related cluster of teacher responses emphasized the importance of creativity for facilitating learning with diverse groups of students. In their students, teachers saw diversity of backgrounds, cultures, innate abilities, interests, and needs. Every student was unique, yet teachers embraced the responsibility for helping each student learn and grow. For some teachers, creativity was important for planning activities that had broad appeal. One teacher explained, “As teachers, we have many different students, and what works for one isn't going to work for another. It takes some level of creativity to design something different that's different enough that it might appeal to them, but not so different that we're not still getting to the core elements we want to study.” Other teachers stressed the importance of creativity in allowing for flexibility and student choice in classroom activities or topics. Natalie emphasized that “creativity comes into play if you’re having someone who’s struggling. Can you think of a creative way to present the information [so] they can connect with it that maybe you haven’t thought of [before] because you haven’t come across someone who is having the block that this child is having?” Working with diverse groups of students ensures that new problems are always emerging, along with new twists on old problems.
Building and Maintaining Interpersonal Relationships

Interpersonal relationships were stressed in another group of reasons teachers thought creativity was important. Teachers noted that creativity was not just important for helping these students to learn subject matter; equally important was the challenge of forming meaningful connections with each student. By knowing students and understanding their experiences, teachers used creativity to keep student interest high, and to keep them motivated. As Lori pointed out, “Maybe they think they're not good at math. Maybe they come in with an attitude; they don't like it. Or maybe they're closed off. And you have to think of different ways of reaching out and maybe changing those attitudes, and I think creativity's involved in that as well.”

Developing Creativity in Students

Some teachers stressed the importance of teacher creativity in order to nurture the development of creativity in students. Nicole found strong connections between her own creative activity as a writer, her creative activity in teaching writing, and her students’ creativity through writing. “Before I can be a teacher of writing, I have to be a writer and apply my knowledge to [my] own writing first, make it relevant, make it personal, and then go out there in the world and do exactly how [I] felt and what I did with kids.” Irene agreed, explaining, “when teachers are creative…[and provide] more opportunities for kids to be in non-graded…open-ended things where the product, the end result, the score, performance isn’t what matters the most…then I think kids become more creative.”
Managing Change

Teachers found creativity necessary for handling and managing change in their profession. “Things have changed in my 35 years here. There was no gifted [education] when I first started. You have to change…especially with things like technology. You have to be creative as a teacher if you’re going to reach the kids,” explained Nate. Anna added, “I think modes of presentation are constantly evolving, as well. I noticed this year that students are getting a lot of their information from YouTube. … So for me, creativity is also thinking about, ‘where are the students?’ ‘Where are they getting their information from and how do I get to that platform, as well?’” Terrence noted, “the neat thing about science is that in a lot of areas of science, things are always changing. There are so many new innovations that you couldn’t do the same thing [teaching science] for a period of time anyway because knowledge is changing…you have to be able to invent and innovate and create something new and different.”

Finding Personal Satisfaction

Lastly, teachers saw importance in creativity at a personal level, providing balance that counters “the parts of our job that are very structured.” Some teachers referenced how their personal creative outlets can lead them to find interesting connections with their curricular areas. Several teachers noted the role creativity played in their professional growth. For example, Steve suggested, “if you’re not interested in being creative [as a teacher], you’re probably not trying to find out what other people are doing and you’re probably going to get very stale.” Two teachers felt that the use of scripted curricula in other districts was uncreative and unenjoyable for teachers. “One of
the things that’s enjoyable is [figuring out], ‘how am I going to make this interesting for the kids?’ If it’s [scripted for you], you’re not getting to do the creative part.” Nicholas added that a friend’s experience teaching from a highly structured and scripted curriculum “would be dreadfully boring, and I don't think it would work well at all. I mean, a lot of the things I look at that are pre-done by the books, I don't even look at them anymore. They're bad, number one. And then number two, it's not your idea so it's hard to ... you're not invested in it because you didn't come up with it. So I think even though it's way more work to come up with your own lessons all the time and change them and tweak them, it's much more interesting to do that, it's more fun, it's more enjoyable when it's successful and... it's better for [students], overall.”

Although their reasons were diverse and numerous, teachers expressed strong feelings that creativity was important in the work of teachers. They cited its utility in working with diverse groups of students, designing lessons, building and maintaining relationships, developing student creativity, responding to change, and growing as a professional. But despite the agreement that creativity is important to teachers in their work, teacher responses revealed some tensions related to CFT. The six groupings of reasons teachers found creativity to be important in their work reflected different kinds of goals that direct teachers’ work and guide their decision-making. But the nature of these responses clearly frames the value of CFT as utilitarian, or a means to an end, and this stands in tension with a general conception of creativity as a worthy end in itself.
Creativity in Other Teachers

Participants had no difficulties identifying other teachers they perceived as creative; they cited colleagues, friends, and teacher-leaders on social media, as well as teachers who had an impact on them when they were students themselves. While there was great variety in their conversations, there were two primary ways that the participants talked about other teachers they thought of as creative: they emphasized the creative products of these teachers, and they described the personal qualities and characteristics they saw in creative teachers as people. And while participants tended to lean more heavily on one perspective or the other, both were intertwined in their descriptions of other teachers.

Products of Other Creative Teachers

From the first perspective, Steve talked about a highly visible English teacher, Brian, whom he follows on Twitter. “He’s on the ball with doing projects. I’ve stolen a lot of cool frontloading prewriting activities from him—whether it’s memory chains, where you're just linking together topics or ideas from one to the next, or moving kids around the room and using post-its to reflect about different characters in a novel, or maybe it's [using] illustrating as a way to uncover characters and things like that.” And while Steve listed many examples of the creative products he has noticed and found valuable, these suggested to Steve something about Brian’s personal characteristics: specifically, his willingness to embrace change, engage in conversation with others, grow, and seek novel experiences for himself. “He’s fun…he's very comfortable in his own skin. He posts a lot of stuff, things that he's doing-current things…and he's
constantly writing, constantly sharing. He's constantly publishing and promoting things through Twitter and such.”

Participants in this study talked about the products of creative teachers in two distinct ways. One point they made was that the teachers they were talking about were doing something that they, themselves were not. The projects Brian was posting to Twitter were not projects that Steve was currently doing with his own students. Nate talked about colleagues’ abilities to generate student excitement around subject matter that he hated or struggled to understand as a student. Elizabeth described art teachers and music teachers, or colleagues who complemented her skill set at the time. “It's always somebody who's a visual person who creates artistic things that I would never think to do, but like I can do it if you show me.” Teachers emphasized technical skills involved in the creative products of other teachers. Most times when these products were in subject areas that the participants did not teach, it was unlikely that the participant would be able to emulate the behavior of the teacher. When the example was in the same subject that the participant taught, the existing gap of technical skill was seen as more temporary.

Participants also characterized creative products of other teachers as memorable. Ron talked about a French teacher he had as a student. “We wrote stories. We did skits. … Every day there was something new that she came up with to present the material. … She definitely stood out against other teachers. I knew what other classes looked like and they did not look like hers. [You] wouldn't know what you were getting when you walked into her class, but I knew from others—you know, my friends that had other teachers—that if you didn't have Mme. R, you were writing conjugations.” Ron’s memory of his experience in Mme. R’s class stood out to him against the accounts of
other students, and so he classified it as creative. Irene described a Phys. Ed teacher’s revered project in an elementary school—something he called “scary gym,” where parents would help the teacher to transform the gym into a big haunted house obstacle course illuminated with black lights to reflect the Halloween theme. Other teachers would join in costume and parents would bring their children at nighttime for two nights. “It was a massive encounter. It was insanity and [the kids] loved it!”

Product-oriented views of teacher creativity emphasize the point of comparison required to render judgement. “I’m not creative” means that the products of other teachers (lessons, activities) are not part of their own repertoire, or their own lessons or collection of products do not distinguish them from other teachers in the minds of students. From this vantage point, however, becoming more creative is a matter of acquiring technical skills and ideas through professional learning.

**Personal Characteristics Evident in Other Creative Teachers**

From the other perspective that emphasized personal characteristics of creative teachers, Alyssa talked about a high school Government teacher, Bev, emphasizing Bev’s openness to new experiences and ideas, and her willingness to take risks. “A really important part of creativity is reading and collaborating. Because sometimes to get your juices flowing you have to expose yourself to new ideas. Bev loves the latest stuff and she’s always trying to figure out ways to bring more recent developments into the classroom. She’ll try out a lot of things, and if they don’t work then she’ll eventually move on and do something else. She’s driven and committed to doing that kind of work and trying new things.” After describing the characteristics she admires in Bev, Alyssa
then noted how those qualities contributed to the creative products Bev develops for teaching. “Several years ago, Bev wanted to do a civic participation project and have kids go out in the community and figure out ways to get involved in their government…and she ran into problems with that. I’m sure she had to scale back some of what she did and then try new things in the future. But I think that her willingness to take risks was a big part [of the creativity in this project].” From Alyssa’s perspective, the project Bev developed was the result of her personal characteristics of openness, risk-taking, and dedication in action.

Owen described a confidence he saw in a teacher he knew. “I don’t know if ‘shameless’ is the word, but he just had no qualms about singing in front of these kids (and he’s not a music teacher), and just being silly…you’re talking about a quality teacher who was able to put himself out there.” Nicole described an English teacher who demonstrated comfort working within ambiguity. “There was a freedom, flexibility kind of thing with the way she ran her room that just worked. There was structure within the openness of it. … She didn’t tell [students] the theme; she let them explore the theme. She let them create what it meant to them.” Irene also noted that teachers who possess these characteristics in abundance also tended to find each other, associate with one another, and find inspiration in each other. Participants who emphasized personal qualities of creative teachers in this manner saw creativity as a way of thinking or a way of being. And although they recognized that anyone could intentionally choose to emulate the ways of these teachers, the tendencies exhibited by these other creative teachers revealed something about their personalities. From this perspective, “I don’t see myself as creative” could reflect that a teacher does not believe her personality matches
other teachers she sees as creative. Given that personalities are relatively fixed over time and vary from person to person, teachers whose first inclinations about creativity reflect a personality-oriented perspective may be more inclined to see creativity as a “you-have-it-or-you-don’t” quality.

**Novelty and Value in Other Teachers’ Creativity**

As reviewed earlier, two hallmark criteria are involved in creativity: novelty and value. When considering other teachers’ creativity, novelty and value most frequently existed with a point of comparison that was external to the other creative teacher. Participants noticed novelty through the other creative teacher doing something that was different from the participant’s activities, doing something outside the norm or routine for that teacher or for teachers in the school, or by exhibiting different personality characteristics from the participant or other teachers. Value was less important in declaring another teacher’s activities as creative. Invariably, the participant found some personal value associated with the novelty observed in the other teacher’s product, personality, or activity. Value, when considering another teacher’s activity, was more of an appreciation. There was something new in that teacher’s activity that the participant could appreciate and admire. Although the participant could make inferences about what influenced or motivated the teacher, the value the “creative” teacher found in the activity herself was hidden from the participant naming the teacher or her product as “creative.” This highlights a tension between visible and invisible elements of teachers’ creative activities, and also emphasizes that creativity is a perspective-based construct that requires a personal interpretation. What is visible to one teacher and interpreted as novel
may be invisible to another, hiding within her existing routines. What is visible through conscious reflection to one teacher regarding the multitude of options she considered and the reason one option was deemed most valuable in meeting her goals is invisible to an outside observer.

**CFT in Personal Examples**

Alyssa noted that she placed a high bar on herself for what she considered creative. “I want to think of: What's the BEST lesson I've ever done that was original and that I came up with all on my own, with no ideas or input from anyone else.” Even if holding lofty ideals for what counts as creative, all teachers were able to recall times where they were creative or they used creativity in their work as teachers. In this section, we take a closer look at several examples to examine Alyssa’s claims regarding first impressions and the bar teachers set for their own creative behavior.

**CFT Within the Curriculum**

Nicole’s accounts of her own creative activity as a teacher were intertwined with enabling her students to be creative:

*So, not too long ago, I used to teach Social Studies in fifth grade, and I wouldn't give the kids a test per se, like a short answer and multiple-choice test. But I would ask for them at the end [of a unit] to think about an object from home that represents one thing that they understood from their learnings of ancient China and they would bring in that object and they would explain to me the object's significance to their understandings of some of the Chinese terminologies and questions that we developed answers to. And then I had a box in the center of the room of just random things: popsicle sticks, cotton balls, lots of things from the dollar store. Then the second question was, OK, you came with one, now create one, and they had to construct an object that demonstrated their understanding of something that they learned in ancient China and it was fascinating to watch. It transcended levels;*
it transcended abilities. And they had fun. And I felt like that experience was a creative moment of my teaching.

Nicole references the presence of novelty with respect to colleagues—none of the other fifth grade Social Studies teachers were using such an assessment—and also with respect to her students, as this was not a type of assessment they had experienced before. Nicole found value in that the activity allowed her to assess the salient points students took from the unit, but the open-endedness of the assessment allowed the students to identify their own take-aways from the unit. When reflecting on why she considered this an example of creativity, she explained, “I just zoned in on that as like a moment where everybody was doing something different and it worked. It worked. I mean I had projected outcomes that I thought they would come away with—things that I emphasized in the content that I thought they would bring objects in for. But then when the challenge was to make your own meaning using these things, the things that they walked away with, those enduring understandings using objects, were different than anything that I had anticipated. And I just thought that moment was really cool for me as a teacher to see light bulbs turn on, out of the box thinking. What they created was just pretty exemplary. So that's why it stood out.” In her explanation, Nicole reveals that she located novelty and value in her students; they produced novel responses and made their own lasting meaning out of the unit’s activities. In a related example, Elizabeth noted that she exhibits creativity in her teaching when she facilitates “writer’s workshop” activities in her classes. In other words, these teachers saw themselves being creative when providing space for students to be creative. As Nicole noted, “Yeah, there was flexibility. There was sort of an open mindedness to it. There was choice. There was sort of a freedom to it...exploration.”
Elizabeth added that these kinds of examples of her CFT “allow creativity to percolate in the room.”

**CFT Around the Curriculum**

Nate described a science activity that he initially developed with colleagues, but that he has “enhanced” and taken “to another level” since that time.

*We had to come up with [an activity] for genetics. ... We got together and said, ‘this would be fun. Let's do this, let's try it this way.’ So we developed this, uh ‘marriage’ between [paper pets, that the kids create with specific genetic traits]. The paper pets get married, and then they cross the genetic traits by using Punnett squares and Mendel’s probability [to determine the genetic traits of their offspring]. And then it just took off from there. I probably go a little overboard with it. We have this whole ceremony in here where we move the desks, we have a reception, we do line dances, I have a whole music set that we do. ... I had a parent send in a three-tier wedding cake one time from [a local bakery]. That's how big it got at one point. Just having fun with it.*

Novelty is exhibited in the memorable nature of this activity. As Nate explained, “seniors in high school, when they come back to visit at graduation, they talk about their paper pets. ‘Do you still do that?’ That's what they remember.” Nate emphasized the importance of fun and getting kids excited in his class. “It's just taking something from the book that's pretty dry, adding to it, enhancing it, making it into an activity that's the one the kids talk about.” In a similar vein, Ron described a week-long activity he developed to help students review before the state math assessment. He called it “Movie Math Madness,” decorated his room with movie posters, re-wrote all of the associated review math problems to include characters and plots from popular movies, and interspersed movie trivia within the collection of math review problems. Like Nate, Ron cited this as an example of making required content “interesting in a creative way.”
Whereas Nicole and Elizabeth infused creativity within their curricular content, Nate and Ron used creativity around the curriculum, to accessorize around their subject matter. The wedding and the movie references had nothing to do with their subject matter; instead, the teachers in these examples directed their creative activity toward classroom atmosphere goals of student fun, interest and motivation.

CFT Outside the Curriculum

Lastly, Irene provided an example of applying creativity outside her curriculum, with a student group that she developed and sponsored.

The BOLTS were a group of kids that originated in my seventh period advisory group three years ago. I come in from playground duty with fifth grade, but [my advisory class] was eighth graders [and I was arriving to class late] because I [was helping so many] new fifth graders in the hallway trying to find their way classes. So we started a discussion [in advisory] about how that could be fixed and this and that. And then so they started going out and helping, and then it started a discussion about how they all wanted to be peer mediators and they wanted to be on student council and they wanted to be effective in the school, but they weren’t voted in. So then I was able to say, “then why are you allowing other people to define your presence in this building? Why are you allowing other people to decide your effectiveness on this planet? Why are you waiting for someone to pick you?”

We turned the whole advisory time into building this group [that lasted beyond our advisory group time], and came up with the name of BOLTS... ‘Building Our Lives Together’ We just do things, um, to energize the community and have a creative presence in the school. Um, we’ve tried to do interactive bulletin boards or decorate kids’ lockers and just feel inclusive. [I believe] we have an innate, built-in desire or inclination to take something from nothing, make something, and see that it's good. And when you engage kids in that behavior... I think that you’re getting down to a fundamental reality of what makes kids tick. And I know that that’s true because that’s what happened with the BOLTS. They come back to see me. They're still so proud of the fact that they started that group.
Irene’s example pertaining to a student group is important because it highlights the extent to which teachers’ interactions impact student growth and development in areas other than just academics. Several other participants talked about creativity relating to teaching responsibilities outside the classroom where they coach, facilitate student clubs, or mentor students. It also connects with Nicole and Elizabeth in that the novelty and value inherent in the example applied to both teacher and students.

**Characteristics of CFT- Looking Across Examples**

What can we draw from these examples that teachers provided of their own creative activity? First, we see that novelty and value were evident in all examples. As when describing creative activity of others, teachers frequently interpreted novelty as the degree to which activities were memorable. Owen, Steve and Irene all mentioned feeling a sense of pride. Irene described creativity as “taking something from nothing, making something, and seeing that it’s good.” With the exception of the “paper pet” genetics project, every example that teachers gave from their own practice involved working alone—suggesting that ownership of the activity is important—and starting “from scratch,” a slightly different interpretation of novelty, but one that places a high bar for what “counts” as creative.

Unlike the examples teachers gave of other teachers’ creativity, the value in these personal examples was explicitly known to them, and aligned with an important goal toward which they were working at that time, whether it be student creativity, motivation, fun, or developing a relationship or sense of belonging. Although known to them personally, this value component is invisible outside the teacher. Others may only infer
what value the teacher associated with the activity, but this is a difficult judgment to
make, considering the many simultaneous objectives that guide teachers’ work.

Time was a complex and important factor associated with all of the participants’
examples. First, the examples or episodes that came to mind were not fleeting moments.
Perhaps this is unsurprising given the strong association with memorability; teachers
talked about what captured their attention and initiated their activity, what thinking
guided their actions, starts and stops in activity, implementation, and reflection after its
completion (if they considered their example complete at all). These examples took time
to develop, but they also took time to implement. Even the final products frequently
reflected a series of activities and interactions, rather than a single event. Not
surprisingly, teachers unanimously noted time as the single-most important factor
influencing their creativity. Creativity takes time—time to assess the situation, time to
imagine, time to plan, time to implement, and time to reflect on the impact, success, or
importance of teachers’ activity.

Considering the length of time associated with the activities teachers recalled in
their examples of creativity, teachers’ descriptions of their own creativity reflected a
process orientation. While describing the creativity of others uncovered person- and
product-based orientations, reflecting on one’s own activity revealed the internal
processes that guide the person and develop those products. These processes resulted in
creative products that were larger in scale, and memorable to the teacher in his or her
recolletion against the backdrop of his or her usual activities. The personal examples of
CFT that teachers provided in their first impressions were characterized by high standards
for novelty, reflecting memorable, time-intensive activities that were frequently planned
in isolation and designed “from scratch.” In remembering their own creative products, teachers subsequently described the associated processes, but the same processes that resulted in novelty and value of the everyday variety typically remained out of the teachers’ metacognitive awareness. Resultantly, a disconnect existed between examples of their own CFT that teachers identified, and the reasons teachers noted creativity was fundamentally important in their everyday responsibilities.

**Teachers Who Self-Identified as Creative**

What about the teachers who actually did think of themselves as creative? Three teachers identified themselves as creative: music teacher Owen, art teacher Irene, and ELA teacher Nicole. Were their examples of CFT fundamentally different from teachers who did not see themselves as creative? Interestingly, the examples they provided when recalling a critical incident were quite similar to other teachers, with two of their examples being detailed in the previous sections. Instead, what seemed to influence their perceptions of themselves was a much broader conceptualization of what counts as creative, and an awareness of their own activities that fit these conceptualizations. Owen was able to challenge the notion that novelty had to reflect something brand new or from scratch. He remarked, “I don't think anything, anything in life is completely new, right? It can't be. We all come from past experiences, so we take what we already know and then do something different. I don't think anything that is created is exactly unique or brand new. Like it all has to come from something else [before].” As a result, Owen incorporated into his conception of creativity the process of combining or altering past
experiences to produce incremental levels of novelty that other teachers did not recognize or associate with their notions of creativity.

Irene also challenged the emphasis on creative products by acknowledging the processes and choices that creative individuals make when developing creative products of any scale. “I just think it's a way of being. So I think creativity is something that transcends all disciplines. I think that the people who are creative have certain behaviors and a certain state of mind that’s not a skill set; it's more an approach. … I also find that creative people are willing to take risks and try new things.”

Lastly, Nicole saw creativity as something that all of her colleagues exhibited, regardless of personality traits or subject area. She explained, “I think everybody’s creative. I really do. And it just looks different for different personalities and different skill sets. I mean, I think of an art teacher colleague and what she can create artistically. It's amazing. When I listen to a music teacher colleague and his jazz things that he does, that's creative. When I see the math teacher on my fifth grade team use technology—the things he does to reteach to kids so that they get it and the hours that he spends doing that, that to me is creating something necessary for kids. And I could go on and on through our staff of who does what. So everybody is [creative in her own way]. It just might look different.”

**Summary**

In summary, more than half of the teachers struggled to see themselves as creative. Although many did not identify with the word “creative,” all of the teachers in the study believed that creativity is important in the work of teachers. Teachers noted
creativity’s importance for handling complexity, facilitating learning with diverse groups of students, fostering productive interpersonal relationships, developing creativity in students, managing change, and finding personal satisfaction in a highly structured work environment. When teachers described other teachers they thought of as creative, they emphasized their creative products or personality characteristics. When asked, teachers were also able to provide personal examples from their teaching that represent creativity’s hallmark characteristics of novelty and value.

Applying person- or product-oriented conceptions of creativity may lead teachers to compare themselves to others and overlook their own creative activity that more frequently reflects a process-oriented approach. In the examples that first came to mind for creativity in others or self, teachers often placed a high bar for creativity in terms of what counts, particularly requiring novelty to reflect a “from scratch” quality that is memorable to themselves and others over time. That said, the reasons teachers provided for why creativity is important to their profession reflected a much more organic, everyday, practical nature that was lacking when trying to consider the “best” or “most creative” example from their practice. Teachers who did see themselves as creative also provided initial examples of creativity that were larger in scale. However, they also recognized creativity in smaller, more frequent, everyday examples of their own teaching activities that others, who did not think of themselves as creative, failed to notice. In the next chapter, we will turn our attention to considering CFT on an everyday level.
CHAPTER 5
CREATIVITY FOR TEACHING ACROSS DAILY RESPONSIBILITIES

Creativity for Teaching Logs - Reflections on a 24-hour period

“I guess I don't see it anymore as [my lesson or activity] has to reach a certain end point to be creative. Whereas maybe going into this I felt like no, it has to be, you know, my best lesson that I created from scratch, not using other people's stuff to be creative. Now, I don't really think...No, I think I see [creativity] more as a process rather than an end product.”

-Alyssa

Introduction

Two of the primary challenges inherent in the study of creativity relate to scale and definition. Examples of creativity that are large in scale are more easily noticed or recalled, and when evaluated by multiple individuals, there is greater consensus that large-scale examples do, indeed, reflect creativity. When recalling a personal example of using creativity in teaching from the entire history of their professional practice, teachers’ first impressions revealed examples that were larger in scale. The scale of the examples they provided, however, reflected an infrequency in practice that seemed to contradict teachers’ stated reasons for why creativity is important in their work at an everyday level. To explore this everyday CFT that often did not come to teachers’ minds in their first impressions, this study utilized a log/questionnaire that participants completed a minimum of five times over a three-week period, in which teachers’ reflections on their CFT were limited to the immediately preceding 24-hour period. Teachers’ first impressions about creativity also reflected multiple conceptualizations of creativity from a definition perspective. When a teacher’s first impressions heavily favored one
particular orientation, it was difficult to tell if this was because the teacher had not considered competing conceptualizations, or if he considered, but rejected these alternatives. As a result, the CFT Log provided all teachers with a common definition, around which teachers focused their reflections:

Creativity for Teaching: imaginative processes, products or approaches, applied to the responsibilities of teaching, that contain elements of novelty and value for the individual teacher involved.

The previous chapter identified that teachers preferred not to use the term “creative” to describe themselves, but they were able describe examples where they used creativity in their work. The definition that was central to teachers’ CFT log examples and reflections therefore emphasized the daily operational activities and products of teaching, while excluding references to personality traits.

What emerged from that data collected through CFT logs and follow-up interviews is a picture of CFT that aligns much more closely with teachers’ previously stated reasons for creativity’s importance in their work. In all, 42 complete log entries informed a more nuanced perspective of how CFT reflects novelty and value, and they also provided a wider data set to explore particular aspects of their teaching responsibilities where teachers saw or did not see themselves using creativity. This chapter expands upon four central findings about everyday CFT:

1. The Everyday CFT Log activity changed how some teachers thought about creativity.
2. The novelty reported in everyday CFT included “borrowing” or “stealing” ideas and activities from other teachers, as well as adjusting or adapting their own previously developed lessons.

3. The value aspect of everyday CFT was forward-looking, rather than retrospective, and required the teacher’s personal interpretation of the highly localized context in which he or she was working.

4. Teachers used CFT in all four Danielson domains, but emphasized its association with planning and preparing for lessons; teachers generally did not see grading as an activity that involved creativity.

This chapter concludes with a discussion that details the important differences between teachers’ everyday CFT examples and their initial formulations about CFT.

CFT Logs as Intervention

The use of the Everyday CFT Logs as a data collection tool had the desired effect of stimulating teacher reflection over a smaller window of time and surfacing examples of CFT that were smaller in scale, but greater in frequency than those that initially come to mind. Beyond this, however, the logs had an unintended effect of serving as an intervention on teachers’ thoughts about creativity and CFT. Some teachers, like Alyssa in the introductory quote to this chapter, acknowledged that limiting the scope of their reflections made visible to them the importance of creative processes in everyday CFT, whereas their initial conceptions of creativity were heavily influenced by product-oriented definitions. Steve emphasized that reflecting through the logs made him aware of creativity in processes he regularly uses in teaching but of which he is not typically
cognizant. For Ron, the logs expanded his thinking to include non-classroom aspects of teaching such as collaboration with colleagues and communication with parents as areas where creativity could be applied. And Nate emphasized the very individualized nature of CFT that he discovered reflecting on his CFT log entries. As he explained, “Some teachers are creative in their delivery. Some are artistically creative, while others are techno-creative. Creativity in Teaching is individual and must be real and authentic [for the teacher] or kids will see right through it.”

Teachers who previously placed an extremely high bar on what would count as being creative recognized much smaller examples of creativity in their everyday practice. The phrase “for the individual teacher involved” opened the door to a range of teacher activities and practices most hadn’t considered creative before. Teacher first impressions about CFT were influenced by comparisons to other teachers or to some large project of which they were especially proud and which other teachers may have also adopted into their own practices. Limiting novelty and value to a personal interpretation helped to surface examples that were much more frequent in teachers’ practice and much more aligned to the reasons teachers identified for creativity being important in their profession. Despite making statements that described novelty and value in their initial examples of CFT, several teachers indicated that they had never explicitly considered these two characteristics of creativity. Resultantly, they acknowledged an influence that the explicit mention of “novelty” and “value” in the given definition for CFT had on their reflections. In reflecting on their practice, these teachers saw characteristics of novelty and value as a thread that connected their initial larger examples with their Everyday CFT Log examples, but these characteristics also prompted consideration about perspective.
Novel and of value to whom? In the everyday logs, only the participant’s perspective mattered; in their first impressions, however, the examples teachers provided were more likely to involve the affirmation of these characteristics from other perspectives, as well.

When given a definition for CFT where novelty and value were limited to the personal level, and when reflection was limited to the immediately preceding twenty-four-hour period, teachers who did not think of themselves as creative suddenly found scores of examples of using creativity in their teaching. Defining CFT on a personal level for personal reflection changed these teachers’ perceptions about themselves and their use of creativity in teaching. And while some teachers still avoided “creative” as an identity-defining adjective for themselves, they came to see themselves as individuals who frequently used and applied smaller-scale CFT through products and processes of their daily professional responsibilities.

**How Does Everyday CFT Reflect Novelty?**

Teachers’ initial formulations of creativity included a range of different associations with novelty. Analysis of the everyday CFT logs for novelty showed that it remained a primary characteristic of CFT; however, distinctions emerged related to the degree of novelty found in everyday CFT examples. Participants’ affirmative responses to novelty prompts addressing the degrees of novelty represented in teachers’ CFT log examples are summarized in Table 5.
Table 5. Novelty responses in CFT logs

<table>
<thead>
<tr>
<th>Novelty Prompt</th>
<th>Totals</th>
<th>Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>N1- I thought of a new variation or adaptation to one of my existing activities or routines.</td>
<td>33</td>
<td>1</td>
</tr>
<tr>
<td>N2- I tried something that was new for me, but that I know other teachers use/do.</td>
<td>13</td>
<td>5</td>
</tr>
<tr>
<td>N3- I borrowed an idea or activity from someone else and applied it to my work. In doing so, I adapted some details to fit my own specific circumstances.</td>
<td>14</td>
<td>4</td>
</tr>
<tr>
<td>N4- I took an idea or activity I have used before and applied it in a new way or to a new circumstance.</td>
<td>27</td>
<td>2</td>
</tr>
<tr>
<td>N5- I took ideas or activities and combined them uniquely to form a new way of approaching some particular problem or opportunity.</td>
<td>19</td>
<td>3</td>
</tr>
<tr>
<td>N6- I identified a completely new problem or opportunity for me, and worked to find appropriate actions to solve the problem or address the situation.</td>
<td>9</td>
<td>6</td>
</tr>
<tr>
<td>N7- Novelty is not represented in this example, episode, or activity.</td>
<td>1</td>
<td>7</td>
</tr>
<tr>
<td>(Number of examples completed)</td>
<td>42</td>
<td></td>
</tr>
</tbody>
</table>

As referenced earlier, examples of creativity will vary by scale, with the perceived scale of creativity influenced by the scale of its composite parts. Because the logs examined CFT at the everyday level, we expected the novelty of teacher examples from the logs to be smaller in scale, and Table 5 supports this hypothesis. Three levels of novelty were identified, and verb codes related to the novelty in each tier are shown in Table 6.
Table 6. Codes associated with novelty tiers: What are teachers doing in Everyday CFT?

<table>
<thead>
<tr>
<th>Tier</th>
<th>Novelty Prompts</th>
<th>Corresponding codes for Novelty: What are teachers doing?</th>
</tr>
</thead>
<tbody>
<tr>
<td>III</td>
<td>N6</td>
<td>Designing, from scratch, researching (9)</td>
</tr>
<tr>
<td>II</td>
<td>N2, N3</td>
<td>Stealing/borrowing with or without adjusting, adapting, researching (27)</td>
</tr>
<tr>
<td>I</td>
<td>N1, N4, N5</td>
<td>Combining, repackaging, synthesizing, adjusting, adapting, refocusing, revising (79)</td>
</tr>
</tbody>
</table>

**Tier III- CFT from Scratch**

In the highest tier of novelty, Tier III, the teacher introduced something new that she designed because she recognized or identified a completely new problem or opportunity in her practice. CFT that correlated with Tier III reflected a “from scratch” characteristic, frequently referenced in teachers’ first impressions about CFT. Examples of large-scale CFT are certainly within the realm of possibilities on any day for any given teacher, but these episodes were rarely reflected in teachers’ everyday examples.

**Tier II - “Stealing” and “Borrowing”**

The middle tier of novelty was cited more frequently. Prompts N3 and N2 involved teachers introducing something new to their practice, but borrowing the foundational elements of the idea or activity from another teacher. The terms “borrowing” or “stealing” were frequently used by teachers when discussing CFT. One teacher remarked, “We're sponges. We just steal and borrow and take ideas.” Another concurred, referencing the work of Austin Kleon (2012), “You ‘steal like an artist.’ I've already stolen ideas from the in-service [last week] that I'm using right now in the
Several teachers credited earlier TTSD staff development initiatives on artistry and teaching that featured Kleon’s work as being influential on their thoughts about creativity.

In reflecting on her initial thoughts about not being creative, Alyssa explained,

*I set my bar really high for myself, because I do that kind of thing all the time where I take someone else's ideas and I change them to fit what I do and I incorporate new ideas and I...develop them into things that would work for me and my students in that particular year, knowing my students and knowing myself. So yeah, I think when you take something and you change it and add to it and turn it into something different and improve it, I think that's absolutely creativity and I do that all the time. But for me...I'm not gonna use one of those [kinds of examples for CFT] because [my first instinct is] I feel like it has to be something original that I came up with myself and then I did something astounding.*

In this excerpt, Alyssa reveals some thoughts that underlie this tension between initial instincts to claim that she is not creative and the everyday realities in which she engages in creative behavior of a smaller scale. To Alyssa, her everyday examples *are* creative, but they do not rise to the level where they are moments of personal pride because they lack elements of complete ownership and larger scale.

**Tier I - Modifying or Adapting Existing Practices**

In the lowest tier of novelty, Tier I, the three most frequently chosen descriptors—N1, N4 and N5—all involved making modifications to one or more of the teacher’s pre-existing activities, ideas or routines. Occurring almost nine times as frequently as “from scratch” examples in the creativity logs, this level of novelty accounted for almost 70% of the teachers’ responses. In one way, this most common type of novelty reflected teachers’ everyday ongoing processes of revising lessons and activities to fit the current needs of their students and the current goals of the teacher.
Steve explained, “You're constantly saying, ‘is there still value in this? Is there something else I need to do to tweak it?’ So, I don't want to be the teacher that just recycles lesson plans for years and years, though it might be the same curriculum and though there might be similar outcomes that I want to achieve. … What can I do to create a better experience for my students in this school year versus last school year? Or even within the school year, like last unit when we were working on this writing piece, this didn't work this way. So what could I do to encourage better peer editing before things get turned in? Or what could I do to help students better prepare for their next science test? So yeah, that's totally, totally creativity.” Nicole commented, “I'm not a ‘let me go inside the file cabinet and pull out the same thing I did and do it year after year’ teacher. I just think as the kids change and as I change it's always growing and morphing and becoming something different. Like, former students will come back and say, ‘we never did that!’ And I'm like, ‘oh no, because I thought about in kind of a different way.’” Tom added, “There's certain things that work nowadays that would not even have come close to working 10, 15 years ago, and that won't work 10, 15 years from now. So, I think it's really important that we are constantly reevaluating what we're doing, looking at it with fresh eyes and saying, ‘You know what? Here's how I can change this to better engage my students. Here's how I can engage this to better relate to my students, as well.’”

Owen connected teachers’ processes of adjusting or combining familiar elements to jazz improvisation:

_I think having to keep going back and do something a little different absolutely is creativity. You could hear recordings of a jazz master improvising in the same song for multiple sessions... I know that that's John Coltrane improvising there, and he's playing a lot of the same stuff, but this is a completely different solo and he's not exactly the_
same. I mean, how many times did those guys play that song on the bandstand? Probably a million times. But it doesn't mean that they weren't creative because they did it a million times...every time they did it was a little different. You know, they kept, they kept working on it and adding things [to it].

A final application that emerged from this tier of novelty was that of efficiency. Teachers frequently combined elements of prior practice, lessons, or objectives to create something relatively novel, and while some of that was directed towards effectiveness and accomplishing multiple learning objectives in a single activity or lesson, at times it served other goals. In one example, Steve discussed the challenge of incorporating a district “Word of the Week” initiative into the existing curriculum. ELA teachers were asked to support this initiative but were given latitude in terms of when and how to incorporate the words into their routines. While he was not involved in putting together the “WOW” materials, and he regularly had his students write for class warm-up activities, Steve saw creativity in how he married the WOW initiative with his existing writing warm-up activities to simultaneously address two goals. Teachers mentioned disruptions to the schedule, where teachers missed seeing a class one day because of an assembly or field trip, and teachers needed to combine two days of material into a single, coherent lesson so they could stay on schedule with the curriculum guide. Alyssa mentioned needing to relocate her classes mid-period one day because of a noxious odor coming from outside the classroom. In order to make more efficient use of the time that remained after relocation, she needed to adjust elements of her lesson on the fly and reprioritize her lesson’s objectives. Steve also emphasized that applying creativity to
efforts related to efficiency recaptured time that he could then apply to innovating in other areas.

**Tensions in Novelty**

In their logs and discussions, teachers revealed three tensions in the relationship between CFT and novelty. Most obvious is the tension between scale and frequency. Teachers’ first impressions were dominated by large scale examples of creativity. When prompted to reflect on their everyday activities, teachers saw that the characteristics of novelty and value were common to their initial and everyday CFT examples. Despite these smaller-scale examples overwhelming the large-scale examples in their frequency, they still required the prompting of the Everyday CFT Log activity for teachers to become cognizant of their existence or their connection to creativity.

Another tension that emerged was the tension between creative products and creative processes of teaching, and the visible and invisible nature of each in different circumstances. Products developed in Tier I were noticeable because they were from scratch or time-intensive, but teachers were aware of the process they undertook to develop those large products. In Tier II, the “borrowing” and “stealing” that surfaced in this analysis placed a high emphasis on product-oriented conceptions of creativity; the product that was borrowed or stolen was novel and obviously noticeable to the teacher because he or she had not used it before. In Tier III, the products were not as noticeable, since the starting point already existed within their existing repertoire, but the process of transforming it to meet the demands of the present context was more evident.
Lastly, there is a tension when considering the perspective from which novelty is considered: novelty for whom? Despite the given definition for CFT specifically referencing the perspective that novelty was “for the individual teacher involved,” teachers still frequently interchanged the perspectives of themselves and their students. The student experience is clearly at the heart of these examples of everyday CFT, and in those cases, the teacher frequently introduced novelty to her own practices with the intention of providing a novel experience for students. At the same time, novel practices—large and small—that represent professional growth for a teacher are not noticeable to students, who have no idea about the teacher’s prior experiences, and incremental growth may not even be perceptible to the individual teacher. Lastly, what one teacher deems novel for herself might be routine for someone else.

**How Does Everyday CFT Reflect Value?**

In the CFT logs, teachers were prompted to consider statements about value related to the teacher’s goals, and value related to transferability of the example to other situations or teachers. Teachers’ responses to these prompts are summarized in Table 7. After follow-up interviews with teachers, three interpretations of value emerged as it relates to CFT: *retrospective value* (did it work?), *contextual value* (where value places limits on the placement or degree of novelty being considered by the teacher), and *transferrable value* (the degree to which the CFT is likely to be useful beyond the immediate circumstances).
Table 7. Value responses in CFT logs

<table>
<thead>
<tr>
<th>Value Prompt</th>
<th>Totals</th>
<th>Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>V1- There was value in applying creativity in the episode, example, or activity I described.</td>
<td>36</td>
<td>2</td>
</tr>
<tr>
<td>V2- The creative process, product, or approach I used/incorporated yielded the expected outcome or met my desired goal.</td>
<td>31</td>
<td>3</td>
</tr>
<tr>
<td>V3- If presented an opportunity, I would do this again.</td>
<td>38</td>
<td>1</td>
</tr>
<tr>
<td>V4- My creative process, product, or approach was useful in this one particular occasion, but not generalizable beyond the specifics of this single event.</td>
<td>2</td>
<td>6</td>
</tr>
<tr>
<td>V5- My creative process, product, or approach could be used in other situations, but not beyond a context tied to me, my students, or my classroom.</td>
<td>15</td>
<td>5</td>
</tr>
<tr>
<td>V6- The creative process, product or approach I used could be used by other professionals outside of my classroom.</td>
<td>28</td>
<td>4</td>
</tr>
<tr>
<td>(# of examples completed)</td>
<td>42</td>
<td></td>
</tr>
</tbody>
</table>

Retrospective Value: Did it Work?

One interpretation of CFT’s value component is associated with success during implementation. From this perspective, things that do not work would not be of value to the teacher, and therefore would not be considered creative. In their CFT logs, teachers were prompted to reflect on how successful they perceived their creativity to be. However, success evaluated after implementation was not a determining factor in whether teachers considered their activities creative. In prompt V2, we see that teachers affirmed meeting their desired goal in 31 out of 42 examples; while their examples of everyday CFT were frequently successful, teachers did not meet their intended goals in almost a quarter of their referenced episodes. By comparison, prompt V1 received 36 affirmative responses, meaning that in five of these examples, teachers found value even
though their goal was not met. In prompt V3, teachers indicated, “If presented the opportunity, I would do this again” for 38 of their examples, even though they only met their desired goal in 31 examples. These higher response rates for V1 and V3, when compared against V2 suggest that teachers still find some element of value in things that do not work, and they keep those options in their active repertoire to use again in the future.

When asked during their follow-up interviews, teachers overwhelmingly dismissed the suggestion that an idea or example from their practice had to work or be successful in order to be creative. Steve remarked, “You can do creative things that are unsuccessful. In fact, I think the nature of it being creative means that there’s gonna be some possibility of it being unsuccessful because you're saying, ‘Hey, here's something I need to fix. Let's find a new way to do it.’ And so, that doesn't mean that the process that you took and what you set in place to achieve that wasn't creative.” Abigail agreed, noting, “The process of walking through creativity is often…as important if not more important than the final creative product. Because…there is a lot of thought that goes into [developing a final product], that's actually creative on its own right, and sometimes the final product, although it's kind of creative, …it's not always a success.” 

Both of these examples reflect the teachers’ emphasis on and awareness of the creative process—something that emerged more prominently in teachers’ reflections on everyday CFT but were less evident in their first impressions.

In another example, Steve recalled a time when he designed a novel activity that he said “tanked,” where students wrote modern interpretations to scenes from _A Midsummer Night’s Dream_ and then performed them on-stage to parents. “I had one of
the worst days of my teaching career in the auditorium because it was just sloppy and poorly rehearsed and almost inaudible. … I was creative in the process and I thought it was going to be fun.” In the end, Steve concluded that the activity was not worth the class time he invested and said he would not use this activity with classes in the future, but he still identified the activity as an example of CFT. Retrospective value may be important for creativity in many domains; however, teachers did not make that association. And while retrospective value may be important for larger-scale examples of CFT that are most memorable, Steve and others still considered episodes that did not work to be creative.

**Contextual Value**

Reflecting on his example of a creative activity that flopped, Steve insightfully exposed a different interpretation of value that may be more applicable to everyday CFT: he admitted that he misread the context. “I thought the kids were going to enjoy it, and then I found out that they didn't. They didn't want to perform. And the volume level of their projection [when performing] made it very clear.” In retrospect, Steve saw failure in the activity; however, the value that Steve associated with it was forward-looking when he was planning to implement the activity in his ELA class. At that time, Steve expected the activity to be successful; in his reflection prior to implementation, there was the potential for value in meeting his goals.

But the potential value that teachers see when considering the introduction of novelty is inextricably linked to their interpretation of the local context in which they operate. Contextual value therefore bears a strong resemblance to appropriateness. And
just like teachers rejected the notion that they would engage in inappropriate activities, novel activities that teachers deem inappropriate to their context when considering their possible options do not typically move forward into implementation. This contextual value therefore acts as a constraining factor that accompanies novelty. Teachers will consider novel practices and activities, but their interpretations of contextual variables place limitations on how novel the activity should be. When teachers anticipated value in a novel approach but misinterpreted the contextual factors, their planned activity moved into implementation, but teachers were unlikely to keep the activity in their repertoire for future use. Several teachers referenced contextual value when talking about efforts of theirs that they deemed creative, but that they would not do again. In the following excerpt, science teachers Dee and David discussed what Dee identified as a creative demonstration that she decided to discontinue, but her colleague reached a different conclusion:

Dee: I think of the activity I used to do with calculating density. I actually had a trash can filled with water sitting inside an empty baby pool. And [a teacher or administrator] came in and actually got into the trashcan [so we could calculate] the human density. It was a ton of fun. The kids had a blast, but [in the demonstration] they calculated density twice. In 45 minutes, all we accomplished was [reinforcing] something they already knew how to do, and they only did it two times. I think of that as the craziest, most creative activity to show and calculate density, but in the end it didn’t accomplish anything. It was just fun.

David: But in 20 years’ time, when someone says, ‘What’s density?’ they’ll think of [their teacher] climbing into a garbage can and they’ll say, “Boom! Here’s how you calculate it!” I feel like, if it’s only one period, that to me I would argue is worth it. Because of the novelty. They will remember that.
In a similar reflection, Terrance explained, “Fifth graders very easily can get carried away; middle schoolers in general can get carried away. You have to have some limitations. Usually I think of activities being creative and you have to find a way to not let the activity itself overshadow the lesson focus. … And purpose is important. I've done a few things that were a lot of fun and fairly creative, but I realized in reviewing that the whole focus was lost on those people. Kids had a great time, but they just missed it (the subject matter objective behind the activity).” These examples highlight one of the tensions resulting from the extremely personal nature of contextual value teachers associate with creativity; truly, value is in the eye of the beholder. It also reflects a tension between the variety of goals towards which teachers were working and the contextual factors they perceived as limiting their activities.

**CFT and Contextual Factors That Influence It**

What were the contextual factors that teachers interpreted when considering the introduction of novelty into their practice? Before implementing a novel idea or activity, Steve said he anticipates whether he will later be able to justify that it was a productive use of class time. Dee determined the contextual variable of class time to be a higher priority than fun, whereas David assigned memorability a higher priority than class time, noting it is “only one period.” Time was the most frequently noted factor that teachers claimed supported or detracted from their creativity. Other environmental factors teachers considered when determining contextual value included availability of colleagues for collaboration within the structure of the school schedule; availability of resources and technology; pressures from policy demands related to performance
appraisals and standardized assessments; and the degree of stability teachers felt with respect to their teaching assignment.

The students themselves factored prominently in teachers’ CFT; when determining the appropriateness of something new that they developed, borrowed, or stole, teachers reflected on their own students’ academic, social, emotional and behavioral strengths and needs; their students’ prior knowledge and experiences; student attitudes, personalities, and interests; as well as the expectations their students hold for what kind of classroom activities are considered appropriate. This further emphasized the local nature of the context teachers considered; what one determined to be appropriate for students in Period 2 might be destined to fail in Period 5.

Other individuals also influenced the teacher’s context; teachers considered what parents, colleagues and administrators might think about their activities when they departed from traditional approaches or activities. Goals and activities for instruction related to subject matter, curriculum, and professional expertise were also part of the context that teachers considered, and these will be detailed further in the next chapter.

Interpreting all of these contextual factors to determine when, where, how, and to what extent novelty should be introduced accentuated an element of risk that teachers strongly associated with CFT. Despite these risks, however, teachers still saw necessity and potential value in incorporating novelty into their existing practices.

**Transferrable Value**

In a systems view of creativity, the value component of creativity is measured by the extent to which other professionals adopt the action under consideration into their
own practices. The small scale of novelty and the care teachers took in correctly interpreting the contextual value prior to implementation would suggest a high transferability of Everyday CFT examples. Surprisingly though, in prompt V6 of Figure 9, teachers only acknowledged potential for transfer to other professionals in 28 out of 42 log examples.

Certainly, Everyday CFT is of a smaller scale than systems would typically recognize. Teachers directed their creativity towards extremely local and personal contexts—adjusting lessons by period to fit the personalities of each class, responding to a variety of needs of individuals or groups of students, integrating personal stories or interests into lessons, or adjusting to unexpected disruptions to the daily school schedule or routine—and that CFT was guided by a deep knowledge of their students’ personalities, strengths, needs, likes, and dislikes. Resultantly, teachers may fail to see how their localized CFT may extend beyond the context of their classroom, content, and students.

Also, considering the extent to which teachers borrow and adapt ideas, materials or activities from other teachers, it is unclear whether teachers who affirmed the potential for transfer to other professionals were, in fact, acknowledging parts of their Everyday CFT examples that actually originated from other teachers, or whether they meant that novel elements they introduced themselves could transfer to still others beyond their classrooms. Furthermore, just because it could be used by others does not mean that a creative example would be shared. Very few examples from the CFT logs explicitly mentioned sharing the creative example with colleagues. When they did, these entries
mostly focused on sharing supplemental resources that teachers found, or activities they
developed using newly identified resources.

While some teachers noted following highly visible teachers of their subject
matter via social media in order to collect creative ideas, none of the participants
mentioned sharing their own practices through such a visible and sometimes viral
platform. Instead, humility was evident in conversations with these teachers. For some
teachers, claiming to be creative was not a way to build positive connections with
colleagues. David remarked, “If someone tells me they're creative, I’m like, ‘Oh really?
Are you?’ I would never claim that. If anyone comes to me and says, ‘Hi, I'm creative,’
they’re also arrogant.” Other teachers were quite confident in their own CFT, but still
were uncomfortable sharing their creative practices broadly. From Irene:

*A few of the [art teachers] on the middle school level want me to publish. And again, not to sound pompous because I mean we all have different strengths here, but I am kind of like the curriculum person [in our department]. A lot of people do what I do. That's always been the case. But then people will say, 'you know, you should write this stuff [for publication]...we all do [lessons you created]. The kids love it. You should write, you should publish.' And on the in-service they were all talking about lessons that they all do and it was kind of my stuff. And it’s funny. Some of them are lessons that I now hate, but they still like. I don't know. I don't have any burning desire to share outside of my [close network of colleagues]...And sometimes I feel like ‘what if I published a whole thing of lessons and then my whole entire philosophy changes?’ I wouldn’t even be able to support it. It's like when you look back at your bridesmaid dresses, you know what I mean? I loved my wedding dress you know, in 91, and now I'm like, ‘Oh my gosh, it's Bridezilla!’ I look back at my lessons sometimes and I laugh!*

The sum total of these examples highlights this tension between a transferrable value that
clearly exists within small-scale everyday CFT and the professional norms that may
impede the transfer of creative professional practices.
Transferability represents one popular interpretation of value that accompanies novelty in creativity. The examples of everyday creativity that teachers provided tended to be highly transferrable, but the transferability of the novelty that teachers introduced did not impact their determination as to whether such examples were considered creative. The value typically associated with creativity also reflects a retrospective quality that was absent from teachers’ everyday CFT; teachers still considered novel practices that failed to be creative. Instead, the value that teachers described in their everyday CFT was anticipatory in nature, where teachers expected value in planned activities based on their understanding of contextual variables. Although teachers expressed an aversion to “appropriateness” as a factor to consider with their creative professional practices, the contextual value that was found in teachers’ conceptualizations of CFT did, in fact, reflect this notion of appropriateness.

The analysis of novelty and value, and their relationship to teachers’ conceptions of Everyday CFT reflects a very personal interpretation. The novelty of Everyday CFT is small in scale and reflects something relatively new to that particular teacher, and value requires the teacher’s interpretation of context to minimize risks and maximize the potential for successful outcomes. In the final section of this chapter, we turn our attention to the domains of teaching responsibilities to examine the distribution of teachers’ CFT. As they read the context in which they work, do teachers demonstrate a preference for where they utilize CFT and where they do not?
Everyday CFT and Danielson’s Domains for Teaching

To complement the researcher-directed component of the Everyday CFT Log examples, the accompanying questionnaire also provided a separate series of “yes” or “no” prompts, inquiring about teachers’ perceived use of creativity in various activities associated with teaching over the preceding 24-hour period. These activities (D1-D11 in Table 8) probed for teachers’ use of creativity in each of the four Danielson domains, and they provide a backdrop that supplements their daily examples in terms of where teachers perceive themselves to be applying creativity. In Table 8, teachers’ cumulative affirmative responses to these prompts are listed in rank order, from highest to lowest.

The logs indicated that teachers’ perceptions of their creative activity for teaching did not reflect an even distribution across the activities of teaching. And while the distribution was not even across all activities, it is notable that all four Danielson (2007) domains are represented in the four highest-ranking activities where teachers acknowledged using creativity. Further to this point, when affirmative responses to each activity (D1-D11) were totaled for each individual teacher over the three-week period, every teacher affirmed at least one instance of using creativity for an activity associated with each of the four Danielson domains.
Table 8. Teacher activities in which teachers reported using creativity over the last 24 hours, per CFT Log/Questionnaire

<table>
<thead>
<tr>
<th>Rank</th>
<th>Activities of Teachers (n=45)</th>
<th>Danielson Domain</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>D6- Engaging students in learning activities (43)</td>
<td>Instruction</td>
</tr>
<tr>
<td>2</td>
<td>D1- Planning lessons/activities (42)</td>
<td>Planning and Preparation</td>
</tr>
<tr>
<td>3</td>
<td>D4- Establish/maintain classroom culture (35)</td>
<td>Classroom Environment</td>
</tr>
<tr>
<td>4</td>
<td>D11- Growing as a professional (27)</td>
<td>Professional Responsibilities</td>
</tr>
<tr>
<td>5</td>
<td>D5- Responding to student questions/comments (26)</td>
<td>Instruction</td>
</tr>
<tr>
<td>6</td>
<td>D3- Addressing student behavior (25)</td>
<td>Classroom Environment</td>
</tr>
<tr>
<td>7</td>
<td>D10- Interacting with colleagues (21)</td>
<td>Professional Responsibilities</td>
</tr>
<tr>
<td>8</td>
<td>D2- Learning about subject matter (19)</td>
<td>Planning and Preparation</td>
</tr>
<tr>
<td>9</td>
<td>D7- Assessing student learning (14)</td>
<td>Instruction</td>
</tr>
<tr>
<td>10</td>
<td>D9- Communicating with families (8)</td>
<td>Professional Responsibilities</td>
</tr>
<tr>
<td>11</td>
<td>D8- Grading student work (6)</td>
<td>Professional Responsibilities</td>
</tr>
</tbody>
</table>

Teacher Accounts of CFT Emphasize Planning and Instruction

A review of teachers’ examples of CFT from their creativity logs supports a high level of agreement associating CFT with the activities of: Engaging students in learning activities and Planning lessons and activities. More broadly, Planning and Preparation and Instruction were the two primary domains in which teachers located their CFT, but teacher commentary stressed the particular importance of planning to their creative
activity. To see how teachers’ examples of CFT frequently spanned all four domains, but emphasized planning in particular, consider one of Elizabeth’s examples from her log:

I wanted my students to learn more information about children with facial deformities as described in the book Wonder and how other children relate to these children. I used the Children’s Craniofacial Association website to find links to video resources that I could use to build understanding. (This all occurred in my classroom after the school day.) The next morning, I showed the students a video entitled: Imagine This: A World without Bullies, which highlights a summer retreat for families of children with craniofacial syndromes. Then I asked students to respond in their Reading Notebooks to what information they learned, what their emotional reaction was, and how they think this connects to the character Julian and summer in the book Wonder. (This occurred in my three reading classes with @74 students.) I shared the video link with colleagues after the lesson in case they also wanted to use it with their classes.

In reflecting on how this example reflects CFT, Elizabeth noted, “This lesson was an imaginative approach to the reading strategy making connections. I wanted the students to go beyond their basic understanding of how they might react to a student like August in Wonder (in fiction) to how they would connect to real children on a screen talking about their conditions.” In a subsequent but related reflection she added, “I could have just read the content in the Wonder book with students and had the discussion, but instead I wanted to bring in real life information and examples to make the conversation richer and more connected to real life.” Several observations from this example are pertinent in understanding teachers’ conceptions about the creativity they use for teaching.

**Planning and Instruction are Tightly Bound**

There exists a strong bond between the planning and preparation that Elizabeth does for the lesson and her implementation of that lesson plan with students. When citing
personal examples of creativity for teaching, teachers made few distinctions between these activities. If the teacher used creativity when planning or preparing to teach a lesson, then she or he also saw creativity in their implementation of that plan. When teachers identified creativity during instructional activities, they either attributed it to their advanced planning, or their instruction resulted in more creative planning for future classroom activities that followed the lesson.

**Student Experiences Matter in CFT**

We see a connection between Elizabeth’s instruction and her students’ experiences in the classroom. She wanted her students to make an emotional connection with the character in the novel, but she also talked about how she hoped that connection would transfer to how her students interact with others in real life. Other teachers also linked their planning and instruction with goals they have for their classroom environment, as Nicole did in one of her own examples:

_I played the song that inspired Maniac Magee - "Dancing in the Street" by Martha and the Vandellas. We analyzed the song lyrics. They planned what song, on the radio now, would be the current soundtrack to the book, Maniac Magee and how it would relate. We also discussed the idea of ‘learn, do, teach, know’ - that is, if you really know something, you can teach it to someone else, regardless of age. In the book Maniac Magee, they do the polka [in the chapter we were reading]. We, today in class, did the polka and then they taught someone else the rules and then danced together. It was fun and was learning in motion!_

Teachers were very aware of how their planned routines and departures from routines could establish, maintain, and reinforce aspects of the learning environment in their classrooms, that, in turn, could influence student attitudes, motivation and learning.
Professionalism, Growth and CFT

Elizabeth’s planning involved researching new material that was related to *Wonder*, and her research identified new supplemental resources she could incorporate into novel instructional activities. Researching strategies, activities, or new resources was frequently a part of the planning teachers noted in their Everyday CFT examples. In some cases, this research was intentional, as Alyssa discusses in one of her log examples:

*I have an [English Language Learner] who needs adapted materials for Civics class. I do not have all the materials needed, and there are no standard districtwide materials in place for this student's level. After borrowing some resources that other teachers had, I began to look online for appropriate materials, since we do not have a standard book or text for that. I had to use creativity in my search terms, and I still have not found the materials I am looking for. I did this during a prep period. I am also actively adapting my own materials, shell notes, and study guides for the student by thinking about their ability level. Certainly, this work is novel for me, since I have not had to create this level of materials before. I am also using imaginative processes in my search for materials, and in making decisions about how to create new tools for the student.*

In other cases, teachers encountered novel resources in personal or professional reading or in personal or professional networks; subsequently, teachers noted using in CFT in finding ways to incorporate these resources or ideas into their classroom activities.

Several ELA and SS teachers referenced Twitter feeds they follow related to their subject matter. Nicole referenced a book she was reading in preparation for a conference she was scheduled to attend. Irene found inspiration in experiencing art through local exhibits, and multiple ELA teachers talked about their professional network associated with the Pennsylvania Writing Project. In all of these examples, teachers grew as professionals, and put their professional learning into action when planning or preparing lessons of their own.
Elizabeth noted she planned this lesson in isolation, after school, in her classroom; however, others cited collaborative efforts. In Alyssa’s example above, she noted consulting with colleagues. Owen also worked with a colleague to solve a new problem they identified collaboratively:

*I spent some time working with my colleague to find a better way to teach a passage in a song for 7/8 Orchestra. In the violin part, they need to shift positions and many of the students have not done that before. We needed to find a way to approach this with those students. We found some resources online (YouTube videos) and looked through various method books we had available. We worked on combining various approaches and started discussing different ways to teach this (nothing concrete was decided yet). We did this during our prep periods, and it happened a day after we had met with students for orchestra sectionals/rehearsal.*

Whether intentional or by happenstance, in isolation or collaboration, like Elizabeth, teachers’ planning and preparation also connected with professional growth in many of their examples of CFT.

Elizabeth’s single example of CFT simultaneously involved the four most frequently noted activities of Planning lessons and activities, Engaging students in learning activities, Maintaining a particular classroom culture, and Growing as a professional, thereby spanning all four of Danielson’s domains. While teachers certainly made connections between CFT and all four domains, they primarily associated it with their planning and preparation, which subsequently connected to the other three domains.

**CFT in Spontaneous Events**

With teachers making such a strong connection between CFT and their planning and preparation, it may seem paradoxical that teachers also found CFT in spontaneous events. For Nate, spontaneous CFT included elements of storytelling and humor. “I
guess with humor, I don't try; it's not canned. I don't have a joke written down or something. Timing's everything. Delivery and all that, I guess. Knowing the audience too. Some classes I'll do it; some I will not because I know how they'll react. But I think [my creativity is] pulling together…my experiences, their experiences, and putting in humor.” Owen described an example of CFT where an idea spontaneously popped into his head while teaching:

> It wasn’t prompted from a student response or question. It was more, I was starting to talk about why this piece that was the “Danse Macabre” was so impactful. And what it was about it that made it, you know, why does it sound like a Halloween song? Why does it sound dark and spooky or whatever, you know? And one of the reasons why is that the whole time the violin is tuned to this interval and it’s something that, it’s funny to hear.

> There's two notes that would sound weird, and people in the western classical music were opposed to it for all those years. The church was against it. Why? And it was like, let me just tell you why real quick. And then I kind of explained it...specifically how the interval used to be called the "devil's tone" and was to be avoided in music. I used the novelty of comparing the use of the interval by Black Sabbath in the early days of heavy metal and their connections with the macabre…and I think it just kinda kept...the ball kept rolling in my brain, and I kept going with it.

Several teachers made references to “teachable moments” to which they needed to be open and responsive to ideas while teaching in order to seize a valuable opportunity.

Nate referred to teachable moments where teachers react to events in the classroom.

> It could be a discovery during a lab where we’ll stop and talk about something. It could be, you know, we talk about those teachable moments. I’ve had somebody knock a beaker off a table and it breaks. All of a sudden we’ve got to stop, not only to clean it up safely, but let's refer back: ‘Hey, what could you have done? What should've been done? How could this have been prevented?’ Those types of things.

Terrence, another science teacher, noted that students frequently spark his CFT.

He explained, “[one thing] that I've encountered in this district that has definitely
influenced my creativity for good has been the kids. You're talking about one thing and someone either during, after, or before class says, ‘what happens if…this? Have you ever…that? Why doesn't…?’ I say, ‘I don't know. Let's check it out. We can do that in class tomorrow.’ I think students promote a teacher’s creativity to the extent that they challenge and question and bring some of their ideas.”

Alyssa concurred, “sometimes [CFT] comes from my students bringing up something that I hadn't thought of. A student asked me a question yesterday in class that was…it was a really good question and I thought, ‘Huh, I didn't provide a good source for that.’ So I went and found a good source and decided it's something I'm actually going to incorporate in my Columbus lesson next year, because I realized there was a question that hadn't been answered. So some of it [CFT] comes from students.”

Sometimes CFT’s return to planning came from unexpected questions; in other cases it came from the teacher’s assessment of student understanding (or lack thereof) in the midst of the lesson. Ron recalled, “I was teaching about slope and my students could find it mathematically, but I felt they didn't really understand what it meant. I used some SOLO cups I had [in my classroom] and timed how long it took for them to stack 10 cups and 15 cups. I had them calculate the slope and interpret it. Also, I [planned and delivered] a similar lab by timing how long it took to pass a ball with different amounts of students.” Whereas Owen and Nate reacted in the moment of instruction and applied CFT, Terrence, Alyssa and Ron encountered spontaneous events during their instruction that drove them back to using CFT in their planning again.

One further point of distinction is noteworthy. For some teachers, this return to planning was critical in their conceptions about everyday CFT. When responding to
classroom events, teachers were constantly facing questions and scenarios where their planned lessons were disrupted, but teachers did not endorse using CFT in all of these cases. Nicole discussed how the needs of her students cause her to adjust mid-lesson.

“They need more reinforcement. They need me to explain it in a different way. I look at [their] ending sentences in a lesson and I'm like, ‘Oh, they don't have that quite yet.’ That's going to [lead] me to kind of shift gears and change it up during the lesson.” But when asked if she considered these to be examples of CFT, Nicole replied, “No, I think it’s just good teaching.” The same processes of adjusting, adapting and improvising in Nicole’s case was handled mid-lesson with instructional strategies she already had at her disposal. One possible interpretation for this is that improvising and reacting mid-lesson using existing practices lacks novelty, and these activities were resultantly characterized by teachers as lacking creativity. Conversely, when teachers responded to mid-lesson opportunities by returning to planning, they found novelty in lessons developed during this time since the adjustments they made were not previously present.

Inherent in this interpretation of CFT is an additional tension associated with teachers’ metacognition. It is difficult to determine if the distinction teachers make between mid-lesson adaptions and planned adjustments to lessons that follow represents a true difference in the existence of novelty, or whether the difference reflects a metacognitive awareness that teachers have during planning that is less present when responding in the midst of classroom complexity. Regardless, this tension provides further evidence of the very personal frame of reference required in understanding how teachers apply CFT in their practices.
CFT, Assessment and Grading

Returning to Ron’s example above, his adjustment to represent slope through a miniature lab activity reflects a process-oriented conceptualization of creativity that was more apparent in teachers’ everyday CFT examples. In considering the process that Ron describes, the example also provides insight into teaching activities that are part of the creative process, but teachers do not frequently associate with creativity. Note that Ron’s episode begins with assessing his students’ understanding and identifying that there was a need to do something that would improve their conceptual understanding. He then considers how he might address the problem he identified and decides, “I had to come up with a lab that wouldn't take that long and that would produce data points I could use to have the students find the slope.” Lastly, he implements the plan in class and concludes, “The activity provided value for my students.” When responding to the yes/no questions that correlate to these tasks over the same 24-hour period, however, Ron indicated using creativity in planning lessons and engaging students in learning activities, but he did NOT endorse using creativity in assessing student learning. While teachers strongly endorsed a process-oriented approach to creativity, they tended to only connect CFT with the phases of planning (imagining options) and action, but not the assessment and problem-identification phase that typically initiates the creative process.

Similar to assessment, teachers did not associate creativity with activities related to grading student work, even in CFT examples they mentioned that included grading activities. Steve talked about a very unique grading system he developed and was sharing with colleagues:
I logged an entry about using numerical grading comments in English essays... So I thought to myself, all right, as you're tracking essays and you're making comments in the margins and you're jotting things down, you start to see trends that happen at this developmental stage in seventh grade. So whether it's sentence mistakes, common usage, punctuation, whatever it may be, instead of getting more and more irritated as the infractions rack up, I decided that if I made it numerical, it'd be more efficient and it might alleviate the burden of writing the same thing over and over and over again. 

As an instructor, the more you see it, the more you get frustrated by it. You're writing 'run-on' over and over again, or 'comma splice,' or whatever it may be. So I devised this method to make numerical comments and create a key, and then share it with students. There's a different focus certainly between a narrative piece versus a persuasive piece, so I have a different key for each one. Obviously sometimes there's certain things you want to say that don't fall into that, whether they're constructive or just encouragement or related to their style or their craft, so I'm still writing notes that are off of the key and comments in the margins and things like that. 

And I also wanted to combat the issue of kids just getting an essay back, looking for the grade and then being done with it. So when students get their essays back from me, they also make what's called a 'correction reflection,' where they fill out a piece of paper that looks at the comments that I've written, and now that they're numerical comments, they have to convert them from the key into the actual written thing and make revisions. So that gave [my students] a better vision of what was happening in their writing and I think it made it more meaningful for them in that they had to write it down.

Like Ron, Steve’s episode explicitly involves assessment—in this case, related to grading student work. Furthermore, he acknowledges that his grading system involves novelty and value, stating, “I've spoken with other colleagues and mentioned it before, and not many other colleagues are doing this. And also, it's a moment where I feel I certainly am proud of incorporating this because it's been successful for me. And I think it's somewhat unique, so being successful in something that I've designed because of a goal that I wanted to accomplish is a point of pride.” Yet in the prompt related to
grading student work, Steve denied using creativity. Unlike examples from classroom instruction, where teachers were unable to disassociate their planning and instruction in examples of CFT, Steve had no problem whatsoever splitting his action of planning to grade—which he deemed creative but located within his planning and preparation—and the act of grading itself—which he found uncreative. “I was saying to myself, as I'm sitting in the moment grading things, that's not creative because that's just like doing my work.”

Irene provided a different perspective on grading, which she does because it is expected and required by the school, but which she finds counterintuitive to her goals as an art teacher.

I honestly feel like grading is the least creative thing that I do. I hate it. I hate the numeric grade associated with an art project. I mean, this is ridiculous to me to give somebody a 98 or 94. So grading for me is just counterintuitive to what I'm trying to get them to experience...It's kind of a thing with my friends, like they kid with me about it...I evaluate [my students]. I get feedback from them every day...but it's not really very hard to get a 100 in my class unless you're off task...I'm not going to be held down by the fact that I don't sit at home and grade all night. I respond.

I'm doing just as much to promote learning and grow children and grow humans...I don't want to say that I don't care because, again, like I evaluate students and grade them and participate in the growth process in so many other ways. I like to think of it as I've evaluated where I can contribute on the staff and where I can't. And if [my students] get a 100 or a 92 or an 87 in art, I don't really know that it's gonna impact the machine as much as it is if I give up every lunch [because students regularly come to visit with me during that time] and get to know these kids.

While Irene feels like she is not very creative when assigning grades to students in her Art class, her stance related to grading contains elements of novelty (core teachers tease her about not doing much formal grading) and value (she is very
principled about why most students get a 100 in her class and she redirects time from grading to other pursuits that she finds more meaningful). She referenced the importance of less formal assessment during class time and provided creative examples of how she assesses student progress, but any connections between Irene’s grading practices and creativity were not evident to her.

Unlike the other teachers in this study, Alyssa directly acknowledged the need for creativity when grading:

> Grading, I feel like requires more creativity these days than it used to because of multiple tiers of intervention. Because we have so many different students in a class, we’re supposed to differentiate for students, but it’s challenging. So I have this student here who is a really high performing student and they didn’t answer something [on an assignment], and it’s not their best work. Do I give them a better grade or a lower grade than the student who really is very challenged and works at a lower level but is making progress for themselves? And that’s just like this weird gray area that’s very hard to figure out. Right? So if they don’t have an IEP with specific things telling you this is what they’re supposed to be graded on and how you’re supposed to assess them, then what do you do? It's just hard...when you have students that are at so many different levels all in the same class. And yeah, I think it’s a really challenging thing and sometimes I stick to, ‘well no, this was the assignment and it was made very clear and I’m going to measure everyone on this more objective measure,’ and sometimes it’s a little more subjective based on the individuals and what differentiation I’m trying to create for them.

> And I think a really, really important part of middle school—because colleges aren’t looking at their transcripts and this is middle school—I think one of the most important things is for students to progress, you know, in their area and for them to feel success. So yes, I think that requires sometimes a lot of subjective assessment when you’re grading.

Out of the forty-five logs completed, teachers associated creativity with grading student work only six times. Admittedly, teachers’ responses were influenced to some degree by the frequency with which they engaged in particular responsibilities; in many
instances, teachers noted that in the previous 24-hour period, they did not grade any student work, so they were subsequently unable to use creativity in these areas. But the interviews with teachers revealed something more about grading that suggests a disconnect between teachers’ reported impressions about CFT for grading, and their actual grading practices. Like Ron’s missed associations between his in-the-moment assessment and the creative process he employed, some aspects of teachers’ grading practices suggest, in fact, that CFT is present but somehow hidden from teacher’s awareness when related to grading practices.

Although teachers reported using creativity with respect to certain tasks or responsibilities with less frequency than others, evidence suggests that some of their creative activity may be overshadowed by strong associations with planning and preparation. Further, teachers showed strong tendencies toward process-oriented ideas about CFT; however, they did not usually associate problem identification—most readily connected with the classroom practices of assessing student understanding and grading student work—with their creative activity despite its important role in creative process models. Similarly, most teachers did not see grading student work as an activity that involved CFT, again, reassigning the creativity to their planning efforts or failing to recognize creativity in their personal and principled stance on their practices of grading.

**Everyday CFT vs. Critical Incidents**

Analysis of CFT logs revealed several differences between teachers’ previously described initial formulations of creativity and Everyday CFT. Most notably, teachers’ first impressions about their CFT gravitated toward memorable moments that reflected
higher levels of novelty and examples where teachers designed valuable products on their own, “from scratch.” In stark comparison to this, many everyday CFT examples introduced the theme of “borrowed” or “stolen” ideas and activities. Some of this may be attributed to a second difference related to time. First impressions about CFT featured high investments of time, both in teacher planning time and class time for implementation, while everyday CFT examples acknowledged limits on the time available for teacher planning, and a quicker turnaround time from an identified problem or need to the implementation of a solution or action. Teachers acknowledged working under tremendous time constraints; borrowing or stealing ideas to serve as a starting point for planning accelerated their progress through problem-solving processes, and teachers frequently modified or adapted the borrowed activities to more appropriately meet the needs of their students. Critical incidents had the benefit of hindsight when reflecting on the value inherent in their CFT examples; teachers knew whether their actions were successful, were memorable and withstood the test of time, were points of personal pride, or were favorably received by their students. In everyday CFT examples, value was significantly overshadowed by novelty in teachers’ reflection. Regardless of whether the example worked in the end, value in everyday CFT examples was forward-looking, anticipating that the novelty introduced would positively serve the teachers’ intended goals based on their assessment of the local context. Lastly, whereas first impressions frequently reflected more ideal circumstances in which the teacher chose to implement a creative, rather than a routine approach, Everyday CFT examples were mired in the realities of the teachers’ local contexts. As science teacher David noted, “it’s funny because the phrase ‘I had to get creative’ sometimes has a negative connotation [to me].
It’s because you didn’t have the money, or the time, or the resources. … You were up against the wall, meaning ‘I was kind of screwed, so I had to make something up.’ … Creativity is a good thing, but it’s only because you were forced to use it because you couldn’t do what you wanted to in the traditional way.’” In this regard, Everyday CFT examples prominently featured a utilitarian focus that was frequently extrinsically motivated by circumstance, whereas first impressions were inspired by loftier ambitions that were chosen by the teacher.

Summary

In summary, the Everyday CFT logs provided important insight into CFT that was smaller in scale but greater in frequency. By prompting teachers to think about their CFT at the everyday level, however, the logs ultimately changed how some teachers thought about creativity. Everyday CFT examples reflected a subtler interpretation of novelty; teachers included borrowing or stealing an idea or activity from someone else and making it their own, or making adjustments to their own existing lessons, activities and practices. The value component of CFT was forward-looking, as the teacher considered whether the novelty under consideration was likely to be successful within the teacher’s existing context. In this regard, value served as a limiting boundary on the novelty being considered; if an activity being considered was determined to be too novel or the wrong kind of novelty for the teacher’s local situation, then the teacher was likely to select a different option that was more appropriate and valuable to the context. Lastly, teachers reported using creativity in activities that were associated with all four Danielson domains for teaching, and any single example of CFT typically connected with multiple
domains; however, teachers primarily associated CFT with their planning and preparation. When teachers used CFT during their instruction, teachers attributed this creativity to the planning that preceded the lesson; when unexpected events transpired in the classroom, teachers frequently revisited the events in their planning for the lesson that followed. The overwhelming majority of teachers did not see grading as an activity that involved creativity, even though many of them described personal practices or stances related to their grading that demonstrated characteristics of novelty and value. In short, the CFT that teachers associate most with themselves in terms of frequency and importance at the everyday level was qualitatively different from what instinctively came to mind when asked about their own professional creative behaviors.
CHAPTER 6

CREATIVITY FOR TEACHING AND SUBJECT MATTER

Creativity to me is, I mean, you know, when you first think about creativity, you think of a product—artistic, musical, talent. Check them off: No, no, no, I don’t have any of those things. -Nate, Science teacher

I didn’t have a definition [for creativity] right off the bat, so I had to think—all right, a musician or an artist or you know…a writer or something. A definition should apply to all of those. -Ron, Math teacher

Sometimes, I think about things like math class. What I think about in the classroom for teaching. I know I teach art, but when I think about [math], I think of a professor at the board, showing the problem, showing the solution. Now you go do that problem, answer, repeat. Problem, answer, repeat. -Tom, Art teacher

I think some people have an idea of what creativity is. And we see creativity as like building, and designing, and constructing new things…like the stereotype of creativity is it involves like glitter and arts and crafts, and things like that. -Steve, ELA/Science teacher

Introduction

Is creativity the same thing in all cases? Are we talking about one thing or does creativity have different characteristics when applied in different arenas? These questions are prevalent throughout the creativity literature and speak to the relationship between creative activity and different domains. Indeed, this study is built on the premise that creativity has important domain-specific characteristics, and that elements of creativity required in the domain of teaching are distinct from other professions. But if creativity applied in the domain of writing differs from creativity applied in the domain of art, for example, it follows that the creativity involved in teaching writing may differ from the creativity used when teaching art. Does subject matter form boundaries of
important sub-domains when considering CFT, and if so, how does subject matter create
distinctions on how teachers conceptualize and apply CFT?

The introductory quotes to this chapter provide an important backdrop for this
chapter, as they provide evidence that teachers perceive differences in the creativity
associated with different disciplines, and also differences in CFT associated with
different subject matter that may lead teachers to initially consider CFT as something that
resides in others but not themselves. There are documented biases in people’s initial
thoughts about creativity—particularly the strong association many people have between
creativity and the arts—so it comes as no surprise that teachers mentioned the arts, as
well as art and music teachers, when talking about creativity. But unlike the prevalent
bias that places creativity within the confines of the arts, all of the teachers who
participated in the study acknowledged the existence and importance of creativity in the
work of all teachers, and cited examples of how creativity applies to the work of teachers
in their own subject areas. Instead of promulgating stereotypes and biases inherent in
creativity, participants’ comments about other subject areas—most notably art, music and
math—provided points of comparison to accentuate features of CFT in their own
subjects. Some clear subject matter differences emerged when teachers talked about
creativity and its application to their work. And unlike what prevalent stereotypes may
suggest, this study found that certain subject matter is NOT more inherently creative than
other subject matter; nor does the teaching of certain subject matter involve creativity
more than the teaching of other subject matter. Instead, examining the data with respect
to subject matter revealed three important findings:
1. The creativity inherent in Art, Music and ELA is more easily accessed and perceived by the general population than the creativity involved in other subjects, but creativity is a part of all subject areas.

2. The curriculum associated with subject matter presents a unique constellation of opportunities and constraints that teachers perceive and around which they conduct their creative activity.

3. The CFT associated with any subject matter requires pedagogical content knowledge.

CFT and Creating in the Content Area

Throughout the study, art and music teachers were mentioned by their colleagues when talking about creativity. Elizabeth remarked, “I think if you said to me, ‘what’s creative?’ I would say, ‘Oh, the art teachers are creative, or people who can do interesting musical things, to me, are super creative.’” Strong associations between creativity and Art, Music and ELA were attributed to three factors. First, the creative products of art and music are more noticeable and consumable than the creative products of other disciplines. To an extent, the creative products of ELA also reflected this characteristic. And second, the teachers of art and music are known to engage as participants in their discipline, actively producing what others perceive as creative products, whereas the teachers of other subject matter either do not engage in their respective disciplines to make creative products, or the products they generate are not perceptible to others. Teachers of Art, Music and ELA added a third observation related to this finding,
suggesting that the discourse within their subject matter reinforced popular notions associating it with creativity.

**Creativity and Accessible Products**

Art and music were most frequently mentioned as subject matter that teachers of all subjects had experienced as consumers. They see visual representations of art through drawings, paintings, sculpture, and graphic arts, and they may even be conscious of design features of a variety of products they casually interact with on a daily basis. Irene and other art teachers emphasized the accessibility of the arts to the general public; students and others can visit museums, see traveling exhibits, and engage in the arts from an appreciation side, even if they are not proficient contributors in their artistic expression. Owen and other music teachers mentioned their ability to connect with students through popular music. Elizabeth emphasized that expressive communication in ELA involves creativity, but she acknowledged that some forms of writing emphasized in school frequently mask to the average consumer the creativity inherent in writing.

> No one's reading three or five paragraph essays in their spare time. ... If you read the sports page the next day, that's all sports writing is analysis of the games from the day before. And people love reading sports illustrated or the sports page or like online, like feedback about TV shows that kids watch or like movie reviews. People love reading that. So we've taken this awesome thing that people love, which is like commentary and review, and we've made it this awful burdensome task [in school] that kids despise.

By comparison, when asked what it meant or looked like for someone to be creative or use creativity in the field of mathematics, math teachers struggled to respond. Ultimately, they suggested that using math as a tool to solve problems in new ways, finding ways to intersect the principles of mathematics with new fields or situations, or
using mathematics to model new scenarios were creative activities in the discipline of mathematics. Science teachers also acknowledged creativity of a utilitarian focus when scientists find new applications for existing knowledge, but they added that scientists use creativity when they make new discoveries, contribute to the ever-growing collection of knowledge and understandings that comprise the scientific disciplines. Social Studies teachers discussed the creativity in their development as the development of new knowledge, artifacts, ideas, interpretations, and understandings of historical events, frequently involving the uncovering narratives and perspectives that were not told “by the winners.” Anna explained, “I feel like I'm still developing my own definition of creativity. But for me, creativity in social studies is taking a look at a historical event in unique ways, and interpreting it in different ways, and looking at it through different lenses and different [people’s] perspectives. I think that's part of being creative in social studies.”

As the teachers described it, creativity in these three subject areas emphasized creative processes that eventually resulted in products that were frequently abstract and much less visible, like knowledge and understanding. These creative products also required the application of knowledge in order for other individuals to understand or appreciate, certainly beyond the capabilities of most laypeople to casually consume.

**Teachers as Active, Creative Participants**

A second characteristic that emerged, unique to art and music teachers, was their personal engagement in creative activities as participants in their disciplines. They were not just teachers of art and music; they were also artists or musicians. Abigail made
references to her personal art studio. Owen moonlights, playing gigs with a musical ensemble. Irene talked about making paintings of professional hockey goalies for a hockey coach in exchange for goalie lessons for her son. And while teachers in other disciplines knew about their own subject matter, none of them made explicit mention of personal pursuits within their subject matter beyond teaching. Math teachers did not talk about being mathematicians, and science teachers did not make mention of work in the lab pursuing their own scientific inquiries. Interestingly, two social studies teacher-participants were known to be actively engaging in their discipline. One participates in historical re-enactments of the Revolutionary War timeframe and in the civics domain of Social Studies, a different teacher is actively lobbying for voting machine reform and running for a seat on her borough council. However, neither referenced these activities when talking about teaching, and neither example was referenced by colleagues. Again, one of the prominent characteristics of art and music teachers’ work in their discipline is that the products they create are noticeable by others. In two of her CFT examples, Irene put her artistic talents to work, engaging with others to create highly visible displays for prominent school events. While the visibility of these CFT examples certainly reflects Irene’s personality and her willingness to act creatively in a public space, it also reflects the visibility of the subject matter itself.

Creativity Reinforced in Subject Matter Discourse

Beyond the nature of products and teachers’ engagement in creative activities of their subject matter, differences emerged in the extent to which some subject matter explicitly addresses creativity within the discourse of the discipline. Owen explained that
the way the public and academia explicitly reference or do not reference creativity in
certain disciplines has an influence on the degree to which people perceive disciplines
and the people who work within those disciplines as creative:

*I don’t know if rhetoric is the word behind a lot of subject matter, but especially for music and art, it’s in our dialogue. It’s like ‘let’s talk all the time about creativity’—creativity to a fault, I think. But in other subjects, in science and math, they’re probably just as creative but you don’t usually think, ‘oh, a mathematician is a very creative person.’ ... That’s the reason why I think many people don’t think of themselves as being creative. They’re not taught that being a mathematician or being a scientist or being a doctor involves creativity. And I don’t think people inherently think that. Like, ‘Oh, my doctor’s very creative!’ But they are...they go to every patient. It’s just like a teacher. You’ve got to go in there and be creative with every single person that you see and treat. I think I see creativity more in the world because of that.*

ELA teachers also noted that “creative writing,” a subset of their curriculum that included poetry, narratives and story-writing, influenced where people associate creativity within ELA activities. But this prominent discourse may obscure the recognition of creativity in other areas of the curriculum, at least at a first glance, even to teachers of that subject matter. In the ELA focus group interview, Nicholas initially stated, “If you’re a professional author, you may be writing creatively, or not. If it’s an analysis of literature, that’s not creative necessarily. It’s more analytical. But any sort of novel, short story, any poetry, just the very nature of it is all creative. You’ve got to come up with words and ideas and how to express them and where to take the story.” His colleague Nancy challenged this initial assessment, noting that she sees creativity in all genres of writing, whether analytical or genres included under the umbrella of “creative” writing. “There’s more structure to some of them than others. They can more freely creative with some of those, but there is creativity ... I mean, you read an essay of a
student's ... It's beautiful. Even though it's an analytical essay, they created some sort of work of art, almost, where it sounds beautiful, it's eloquent, it's well-stated and it demonstrates some level of creativity where they’ve taken text and done something with it. Something different.” Reflecting on this, Nicholas revised his initial stance, concluding, “I think anything that's written or spoken ... how it's presented would be creative. Even if it's like an author search project, a research paper on an author, it can be presented [with varying levels of creativity].”

**CFT and Curriculum: Constraints and Opportunities**

*I think a discipline like math, not to step on the math teachers’ feet, I don't teach math, I don't know...It just seems like you have to do a problem a certain way, like, it's got to be done this way, right? Watching my son do math, it's got to be done this way. I'll say, ‘What about this other way?’ [He'll respond.] ‘No, you’ve got to do it this way.’ But in English, it's much more ... there are different ways to approach it. – Nicholas, English teacher*

*Again I use [for comparison] math, which is more solid ... You know what Algebra is, what Calculus is. They're more fixed. Whereas English is another [subject]s that looks at different stories. Now they might look at different perspectives from around the world, different authors, and different genres. Social studies, and I think English, have changed very much in that area, which allows for more creativity. There's more resources to go to. -Leo, Social Studies teacher*

When reading these two quotes, it would be easy to conclude that there is not much creativity associated with teaching math. In the previous section, I asserted that creativity in math leans heavily on less-visible process-oriented models of problem-solving, but students mostly solve problems that were posed by other people, and the correct answer is already known. When the work of math teachers is tethered to such a rigid frame, is there space within that frame for flexibility required of CFT? Teachers in
this study referenced concepts like flexibility, freedom, decision-making and autonomy when talking about creativity. In the ELA focus group conversation referenced in the previous section, Nancy mentioned a tension between freedom and constraints, emphasizing that creativity can still exist within structure. Teachers operate in a highly structured school environment that organizes the time, space and activities of teachers and students. Tom explained, “I think creativity often comes out of necessity. I find that I have to have almost a set of boundaries to confine me a little bit so that I have to come up with a creative solution on how I’m going to [operate].” Considering the many examples of CFT that teachers provided, it became apparent that creativity does not only exist in the absence of structure or constraints; CFT exists in spite of those constraints.

With respect to subject matter, the curriculum guide for each course provides a unique combination of parameters that direct the teacher’s goals and actions. Although the specific format of curriculum guides varies from district to district, these guides typically inform teachers about what subject matter is to be taught in the course, how that subject matter connects to externally defined content standards, how the subject matter connects with the primary resources the district uses for the course, frequently a textbook, and how instructional time is to be allocated over the course of the year through a scope and sequence or schedule. While all of the teachers in this single district had similarly structured curriculum documents to guide their activities, important distinctions emerged by subject matter regarding how the previously mentioned aspects of curriculum influenced their CFT. When negotiating the curricular constraints and opportunities associated with subject matter, teachers considered five main factors that directed their CFT: content, goals, resources, relevance, and risk.
To illustrate how these factors influenced CFT in ways that are linked to disciplinary traditions, I will begin with an excerpt from an example of CFT in Social Studies that Alyssa shared and discussed. Then I will consider how each of the five factors relates to Alyssa’s example, and how the CFT of other subject areas may differ along these dimensions. From one of Alyssa’s log entries:

*I created a lesson on prejudice, online radicalization, and hate crimes. I did this over the weekend at home. I originally was planning to teach different lessons today, but I could not ignore the hate crimes of the past week. I did not consult with other teachers in creating it, but I shared my lesson with other teachers after it was created. … My work certainly required imaginative processes and approaches. There was no pre-prepared lesson out there on how to address the package bombs, synagogue shootings, and the shootings of black people near a black church.*

*I had to think carefully about how to approach the issues in an age-appropriate way and choose articles that could be used and were not too biased, because there is so much biased and inflammatory news these days. I chose an Upfront article on how YouTube can radicalize people and also an article on the increase in hate crimes over several years. I had to also think of how to approach getting students to reflect and discuss and debrief. This activity included both novelty and value for me, because it was a new lesson, and I asked students to reflect on new questions.*

*It has value for me as a teacher, because it is important to me to teach about countering prejudice, and I can use some of the questions in the future, although I may not be able to use both of the articles for too long as they will become outdated. The focus on discussion and solutions, rather than blame, is an approach that has value far beyond the classroom and is one that more of our society should be using these days, as civil discourse seems to be eroding.*

**Curriculum and Content**

Alyssa figuratively pressed the pause button on what she intended to teach, and instead, created a series of two lessons that she taught to both her seventh and eighth grade Social Studies classes. The topic of hate crimes is not an explicit part of her
curriculum guide for either course; however, Alyssa sensed an opportunity and a need to engage her students in learning associated with unanticipated current events that she connected with her subject matter. Content, addressing the question of what subject matter is to be “covered,” is a primary objective of any curriculum guide, and this is the first constraint that Alyssa mentioned wrestling with when discussing her example. She explained, “I feel like in eighth grade it really stressed me out because I feel like the eighth grade curriculum is so packed and there's so much we have to cover. … So I was like, ‘Ugh! Do I have time?’ That's a hard thing [to consider] because then it forces you to think about what you're going to cut out somewhere else.”

Although she found value in this two-day detour from her planned unit, taking time to address this opportunity required sacrificing time for something else. Social Studies and Science teachers in particular lamented the fact that there was so much “to cover,” considering the vast expanse of material included in their discipline. Every day produces more history, new scientific discoveries and new understandings of existing knowledge to be added to their respective piles of content. Perhaps ironically, the excessive amount of material included in these disciplines simultaneously provides teachers with the permission to take liberties related to coverage. Leo remarked,

*I forget how many disciplines we are certified to teach: psychology, sociology, economics, US history, world history, geography. There's quite the range of topics that we have to cover. … They're all social. They all have to do with people, how people interact, interact in other countries both politically, through civics, through their geography, through their economy. And we have to know how all of that interacts and works together in one large domain. So it's not very specific in that respect. Where if it's a specific math or other discipline, you know pretty much what it is that you're looking at. Whereas for us, it can be any aspect of social interaction, across a broad spectrum.*
The impossibilities inherent in covering an ever-expanding collection of content had a diminishing effect on the constraint felt by Social Studies and Science teachers; while they acknowledged stress related to curriculum coverage, the stress did not prevent them from taking liberties with what content was covered, what content was abbreviated, and what content was skipped altogether. Curriculum guides outlined their units of study and emphasized common curricular dwelling points for teachers responsible for the same subject matter and courses, teachers scheduled what they determined to be valuable and related side-excursions and decided what content merely warranted a drive-by.

Math teachers, in stark contrast, held a very different perception regarding the flexibility of their subject matter. To them, the content and pacing in their subject was stringently dictated by state accountability assessments, making detours and excursions impossible for them to consider. Unlike Alyssa, when creative inspiration struck some math teachers in the form of a tangentially-related idea, they more frequently stuck to the content as planned, or at most deferred introducing a novel assignment or activity that would take addition class time until after the state assessments. Natalie explained, “a lot of us, we do [more creative activities with students] at the end of the year instead of within the unit, because we don’t have the time in the unit to do it. We still want them to experience it, because it’s a really fun experience for kids in math to be like, ‘That was great,’ but we do have to move it [later in the year] because of the standardized tests.”

Curriculum and Goals for Student Learning

As has been mentioned previously, teachers orient their activity and decision-making according to multiple goals that they simultaneously address. Prominently
situated amongst these targets are goals the teacher has for student learning, and these aims are influenced significantly by the curriculum. But goals for student learning can vary significantly. Are teachers expected to emphasize acquisition of knowledge, development of discipline-related skills, or some combination? Is the purpose for engaging students in subject matter oriented toward mastery, growth or exposure? The ways that curriculum influences teachers’ answers to these questions subsequently influences teachers’ decisions around CFT.

In her example, Alyssa emphasized disciplinary skills of recognizing and interrupting prejudice, and thinking critically about connections between current and historical events. Other Social Studies teachers also stressed that their subject matter served a higher purpose of helping students become citizens with personal opinions that were grounded in historical understandings and informed by multiple perspectives. Knowledge acquisition and mastery of factual information was not the primary purpose of their instructional activities.

This was not the case for math teachers, where student mastery of content as measured by standardized assessments factored into state-mandated teacher appraisal formulas. The math curriculum clearly articulated what content and skills were to be mastered in time for the annual assessment; Natalie described these standardized tests as “a big driving force” that influences math teachers’ decision-making in CFT. While Alyssa’s CFT featured a moment of inspiration, for math teachers, desperation drove teachers to introduce novelty in aspects of their practice they considered appropriate. Math teachers directed their CFT to more abbreviated moments that addressed student struggles with content while still adhering stringently to the curricular timeline. In an
example I will discuss in greater detail later, Ron described using CFT where he designed and implemented a new introduction to a math lesson based on his assessment that students were struggling to correctly combine “like terms” in algebraic expressions.

At the opposite end of the spectrum, Art and Music teachers emphasized goals for student learning that emphasized exposure, rather than mastery, and skills, rather than content knowledge. In this regard, their curriculum provided more opportunities for CFT than constraints. Irene noted,

... especially with art, I don’t feel tied to a curriculum. I feel like I have a lot of freedom and I feel like I'm in a really unique situation in the school. We have curriculum that's based on skill sets like color mixing or slip and score or coil with clay, but the end product is not prescribed. So what I love about my job is that if I go on a walking tour of the mosaics on South Street in the summer and feel inspired, then I can spend the rest of the summer developing a lesson on Isaac's mosaics. Or if I see a documentary on Wyeth, I can do whatever I want as long as I teach the skill set that's required by the curriculum. And I feel like that's really unique [when compared against other subjects].

Curriculum and Resources

Also unique to Art and Music curricula at Tellerstown is a freedom from a primary resource; the text or texts associated with a course frequently influence how subject matter is organized within the curriculum scope and sequence. But how do these primary resources influence CFT? Although a textbook accompanies Alyssa’s curricular materials, the textbook did not have materials that were of use to Alyssa in creating a lesson about hate crimes in current events and interrupting examples prejudice. Instead, she went beyond the text to find novel resources that supported the goals of her lesson. If creativity is frequently born of necessity, then one way the primary texts provide opportunities for CFT is through their limitations. Social Studies and Science teachers
lamented the fact that their textbooks are frequently outdated due to expanding content in their disciplines, but they also cited that as a factor that inspired their creativity. As Rick observed, “I kind of like having a 10-year-old Social Studies textbook with a ‘modern issues’ section in each unit, because it gives you discussion points and teachable moments. We look at the ‘modern’ issue [as presented in the text], and then see what it actually looks like today. Just having that component in each unit means you have to be creative. I mean, whatever new book's out there now, by the time it gets ordered it would be outdated, too.”

Social Studies and Science teachers frequently noted the need for CFT when finding supplemental resources to make textbook content more accessible to students. Sometimes students struggled with the reading level of the text, so teachers needed to find alternate resources to connect students with content. At other times, the content was too abstract in text format, so teachers sought activities that represented concepts metaphorically, video clips that enabled students to experience content visually, or engaging lab activities that investigated relationships between variables.

For ELA teachers, texts did not contain the subject matter for their courses; rather, texts were a platform through which students and teachers engaged the skills associated with reading, writing, and oral communication. As Elizabeth noted, “We don't teach Wonder and then Wednesday Wars. We don't kind of march along the year teaching this book, and then that book, and then the next book. We're teaching reading and we just happen to use these particular books to do it, but we could use a lot of different books if we wanted to because we're teaching kids things about how reading works.”
teachers therefore directed their CFT toward designing classroom activities that used the curricular texts to explicitly develop student skills in reading.

Like many math teachers, Ron described his textbook as, “a big collection of problems that are already organized along the lines of your skill sequence. … There's a reason why we picked that textbook. We thought the problems were good and challenging—or that’s one of the main reasons—so we try and use them.” But like any other subject, even math textbooks have their shortcomings. When the primary text was lacking, however, math teachers were unique in noting their tendencies to generate their own materials (problems) completely from scratch when needed without first finding a secondary resource. Ron explained, “[as a math teacher,] your strategy isn't like, ‘let me find another math book.’ Either I'm going to make up problems of my own, or I'm just gonna find another bank of problems somewhere. And then you hand select the ones from last that you think address the issue that you've identified.”

**Curriculum and Relevance**

Many teachers discussed the importance of CFT in making subject matter “relevant” to their students. In some cases, this involved addressing shortcomings that teachers identified in primary resources, but relevance was a much broader concept that influenced how teachers combined novelty and value in subject-specific ways that reflected the curricular constraints and opportunities they perceived. Alyssa took a troubling current event, connected it to the historical concepts of “prejudice” and “antisemitism,” and planned two days’ worth of new activities. Making Social Studies relevant to students frequently meant helping students connect something that is
historically distant with something in students’ present-day lives. Alyssa explained, “We had talked about antisemitism, but when you talk about it in terms of the Middle Ages, I mean, I think to some of my students when you speak about something that’s more— I mean even September 11th seems to them, like something kind of distant because most of them weren't alive—so when you're talking about the Middle Ages…you can learn about it, but it's a very abstract concept. So I think that it made that whole idea more concrete for them.”

Relevance for ELA, Art and Music teachers frequently reflected helping students to make a personal connection with their subject matter. Christine mentioned discussions with other music teachers about what songs students would want to play when learning guitar in General Music classes. Music teachers found that when their sequenced instruction of chords and techniques was organized around popular songs that students knew and loved, students were more invested and motivated in class; using CFT involved restructuring their units to reflect changes in popular music that were more relevant to students. Similarly, when teaching reading, Nicole described herself as a “book finder” or “book seeker” for kids. She explained,

*We want kids to read. My job is to find them books and I just have to be creative. I'm a salesperson in here for them with books and I just have to approach it differently with different kids. I have to know their personality and know what they're reading. What do I have to do? Do I show them the first page and the ending and hook them that way? Or am I going to open the secret book closet which is over there and be like, 'I don't show many kids this book, but this will be a special one for you. You should try it.’ So, I felt like I have to be individualistic for them, but also I have to think on my toes all the time about how I'm gonna respond to them to get them to do what I want them to do, which is read.*
Science teachers discussed relevance as meaning-making and representation associated with understanding content. In this regard, relevance was related to the teacher’s problem-solving abilities. Dee noted, “If a kid's not getting it you're like okay, first try didn't work. We've got a problem, we've got to address it. Let's get creative, here we go.” Terrance added that when a student is not understanding a concept through your conventional approach, “You innovate and you create and you come up with something different. Some different modality. You go to a whole other analogy really to explain the concept that was an illustration in the book. You kind of bring it to life.”

Math teachers tended to combine the problem-solving and personal connection interpretations of relevance. Lori emphasized math teachers’ CFT in presentation. “I feel like especially for math, because it's not a standard creative outlet, your creativity comes into play with how you plan and present, and the story that you tell to go with it. So when students leave [your classroom], they have something to grab onto.” She added that it was also important for math teachers to apply CFT “on an interpersonal level, where you might have challenges with a student. Maybe they think they're not good at math. Maybe they come in with an attitude; they don't like it. Or maybe they're closed off. You have to think of different ways of reaching out and maybe changing those attitudes, and I think creativity's involved in that as well.”

Regarding personal connections, Amanda mentioned, “I think on a day-to-day, more boring level, creativity is important to keep your students engaged just every day. I remember sitting in Geometry [as a student], and my recollection of it. It was a few years ago, but we did the same thing every day, and I just remembered a guy droning on and on and on, theorem after theorem and theorem, and me going home and memorizing them
and trudging through this.” Ron acknowledged that his CFT involved “accessorizing” problems or classroom activities without making any substantive changes to the mathematics itself in order to stimulate attention and interest. Math teachers mentioned making minor alterations to problems that incorporated characters from pop culture without impacting the math behind the problems, integrating elements of competition into a lesson, or sharing personal stories in problems to help students make more of a personal connection with their teacher. In some ways, therefore, relevance for math teachers at an interpersonal level was more likely to resemble motivating students to work hard, cajoling students into doing something unpleasant that they needed to do, sometimes resembling a parent convincing a child to take his medicine.

**Curriculum and Risk**

Regardless of the subject area, teachers agreed that CFT involved an element of risk whenever they departed from familiar practices, materials or routines. But certain risks that teachers perceived were strongly influenced by the subject matter they taught. Social Studies teachers described the risks associated with teaching potentially controversial material. When Alyssa reflected on the planning involved in her two-day detour, she acknowledged thinking,

_Hmmm, could I get some angry calls from parents? Are parents going to say, “Why are you talking to my kids about what happened?” I was assessing, well it's all over the news, so unless parents are making sure the kids are nowhere near the news, the kids will probably hear something about it. And better to process it in a classroom and in a way that's been planned out than just to hear weird stuff. And of course I always give the disclaimer, like if anyone brings up anything that's really upsetting to anyone, make sure you talk to an adult or a counselor or parents. But still the risk-taking assessment part I think requires creativity and I have to think about what are the possible_
reactions I might get. ... I think there's a lot of creativity involved in that because all of these discussions are hard discussions to have and a lot of it's trial and error and when you're going into new territory you're kind of blazing a path and trying to figure out what works.

Other Social Studies teachers also discussed the risks they perceive when teaching about government within the present context of extreme partisanship. When teaching about controversial topics and fielding student questions related to current events, politics or religion, they frequently wondered, “Am I going to get blowback from parents or administrators?” They noted risks involved in including particular perspectives in novel lessons or activities, but also risks associated with excluding perspectives. To a lesser degree, Science teachers also using CFT to navigate risks associated with certain content. Dee explained, “Your lesson content sometimes has to change. How you approach something. I think of evolution or climate change. Never used to be a hot topic. Now it’s a sensitive topic and you have to be careful how you approach it and how you teach it. I teach it very differently now than I did seven years ago. You're always assessing and processing and changing and thinking. Not just because you want to but sometimes because you have to.”

Another kind of risk that influenced teachers’ CFT was associated with expectations for student mastery of subject matter. Math teachers in particular perceived risks related to student performance on state assessments. These risks had a limiting effect on dimensions where teachers might apply their CFT. Any potential adjustments to lessons and activities were weighed against the impact these changes might have on student performance. Natalie described an intense pressure she felt related to the math curricular timeline: “I know once January hits, that's when my heart begins to start
palpitating that PSSAs are coming up. That's when I begin to feel the pressure sitting on me, like you only have this much more time left and oh my god. And I know that time is coming, and I think it's hard for people who don't teach math. They're like, ‘Wait, that's in April.’ I'm like, ‘That's like tomorrow.’ That's how I feel.” The risk of failure, as defined by drops in student performance was weighed heavily when considering the introduction of novelty. Maybe a new way will not be as effective. Maybe students will not get as much out of the new way as they did the way that was tried and true. When asked about factors that inhibit his creativity, Ron responded, “when the uncreative way works.” He identified risks of time investment that also connected to student mastery of content. “The amount of hours that it takes to go from ordinary to something that I would consider creative takes way more time, and that takes away time from whatever else I could be doing to help my students.”

The curriculum associated with each subject provided a unique combination of opportunities for and constraints on CFT. Teachers’ perceptions about the content, goals for student learning, resources, relevance and risk that was specific to their subject matter encouraged creativity in some dimensions while limiting it in others. When teachers perceived a low degree of flexibility in particular dimensions, it did not mean that teachers were not using CFT; rather, teachers directed their creative efforts in other dimensions that were less constrained. CFT therefore involves agency and decision-making, determining when, where and how to introduce novelty in ways that are appropriate to the contextual factors associated with their subject matter.
CFT, Expertise and Pedagogical Content Knowledge

In the previous section, we found that each subject area produced a unique array of constraints and opportunities, around which and through which teachers directed their CFT. But how do teachers make adjustments to plans or activities when students struggle to grasp content? How do teachers determine the appropriateness of novel resources or activities, or know when the usefulness of an existing activity has expired? How do art and music teachers write and adjust curriculum in the absence of a guiding primary text resource? How do teachers venture into new territory without ensnaring themselves in unexpected problems that detract from their goals and objectives? Regardless of the subject matter at hand, teachers called upon their expertise to guide the decision-making processes involved with introducing novelty that is of value to the teacher and students. In doing so, the teacher also adds a new personal set of constraints on CFT related to pedagogical content knowledge (PCK). In order to make content relevant to students in appropriate way, or adapt or adjust instructional techniques and activities, teachers need to be knowledgeable in their subject matter, knowledgeable about how students interact with that subject matter in productive ways, and possess an understanding of how knowledge is constructed in the subject area (Shulman, 1986). Teachers reported lower levels and lower frequencies of CFT during times when they were relative novices. Similarly, teachers responsible for teaching multiple subjects reported higher levels of CFT in the areas where they had more extensive training in subject-specific teaching methods. Regardless of the scale of creativity involved in the CFT examples that teachers provided, discussions about these examples revealed PCK at work behind teachers’ creative processes. Teachers noted that their amounts of preparation, time and
experience working with the subject matter they teach influenced their CFT, helping them to correctly assess when, where, and how to introduce novelty to their practices, while simultaneously anticipating and mitigating the risks inherent in CFT.

**CFT in Relative Novices**

Although all of the participants in this study were teachers with a minimum of five years of teaching experience, most acknowledged times recent in their careers when they were relative novices, despite being veteran teachers. Elizabeth and Steve both mentioned teaching a new course this year. Ron discussed his experiences adjusting to a new textbook to teach a familiar course. Nate mentioned efforts to incorporate new technologies into his existing practices. And while none of the Social Studies teacher-participants were relative novices at the time of this study, they discussed their need to help and mentor veteran colleagues who were newly assigned to courses that they taught.

In their first year teaching a course that is new to them, teachers felt that their CFT was hampered, leaning heavily on colleagues for resources and lessons, although all were certified and highly qualified to teach the courses to which they were assigned. As relative novices, teachers still saw themselves using CFT, but to a lesser degree than in courses where they had at least a year’s experience with the subject matter and students. Steve reflected,

*There's some creativity [during my first year teaching a new science prep] because there's definitely some carryover in terms of things that I've learned from teaching science where I can say, 'all right, well it's just different curriculum, different content, but I can still do that.' But at the same time, it's a lot of following the lead of some of my colleagues that are very comfortable with the curriculum, or the pacing, and the structure of the units. And another thing that I've become more conscious of this year is the need in either course to be*
closely connected with what my colleagues are doing for the purpose of our special education teachers, whereas earlier in my career I might have had very little concern what assessments [other teachers] were using. Now I find myself talking more with them about [making] sure that if we're going to do an essay, we have a pretty similar essay assignment so that there isn't some teacher in a [special education support] classroom who's got like three different English essays that they have to help students prepare for.

Steve’s comments reflected a cultural expectation within his district, that students taking the same course should have a similar experience with the subject matter regardless of the teacher to whom they are assigned. Steve also emphasized the need for consistency with other teachers of the same subject matter in order to help special education teachers support students learning the same content from different teachers. In both of these observations, Steve reveals important variables that influenced the value component of his CFT—contextual variables he acknowledged took time to read and understand in his own practices. Beyond this, however, teachers noted that CFT also requires time to acquire the requisite knowledge—knowledge of curriculum, knowledge of students, knowledge of content, and knowledge about how students interact with specific subject matter. Teachers noted making fewer adjustments and adaptations to borrowed materials, lessons, or activities in their first year of teaching a course. Similarly, teachers cited the beginning of each school year as a time when they apply CFT less frequently. Teachers indicated that their lack of knowledge about students at the start of the year made it difficult to know what adjustments or adaptations would be most appropriate or successful; instead, many noted that they rely on tried-and-true lessons and routines from their repertoire, so they could learn how their new students interact with these familiar activities.
CFT was evident in all teachers, whether the teacher was a novice, relative novice, or veteran with the subject matter; however, the teacher’s experience and expertise affected the scale and frequency of his or her CFT. When novices or relative novices, teachers noted a limited ability to anticipate student reactions and questions when engaging with subject matter, thereby making it difficult to accurately read the context and assess whether and how novelty might be needed. Teachers’ levels of expertise also influenced the direction of their CFT. In examples from novices and relative novices, CFT was more self-directed, reflecting a teacher’s professional growth; the novelty and value inherent in these activities were more for the teacher himself or herself. After gaining that experience, however, teachers described CFT as outwardly directed, where novelty was introduced and directed toward students and student experiences. For example, in his first year using a new math textbook that structured and framed mathematical content in a very different way than the previous text for the course, Ron indicated that he followed the textbook very closely, using the text’s sequencing of content and example problems in his lessons. The example problems for those lessons were new to him, but he did not generate them. He found value in what he learned about how the content was organized and how his students experienced the content through the new book’s structure and problems, but he didn’t add value beyond the book’s prepared problems and materials. In his second year with the new textbook series, Ron was able to make adjustments to his instruction by changing or supplementing example problems and developing his own novel warm-ups or demonstrations for his lessons that were not included in the book. These adjustments, in turn, resulted in value for his students, since they understood the content more clearly than students in the previous year.
CFT and Subject-specific Pedagogy

A second way in which teachers found personal levels of expertise influencing their CFT was related to the teachers’ preparation from a teaching methods perspective. When teachers taught multiple subjects, they noted higher levels or frequencies of CFT in the subject where their professional training and education was most extensive. Steve explained,

As a science teacher, one of my weaknesses is that I am not as comfortable with different methods and different styles of instruction for the science class, because I didn’t study a lot of different techniques and methods. Whereas in the English classroom, that’s one of the things I pride myself on is different styles of instruction, and methods, and activities, and things like that.

[With] science, I see it as more rigid, like here’s the content. Here are some things we’re going to do to supplement that. And here are some cool things to check out too. For me that feels more linear and just like here’s the straight line. Whereas teaching English I feel [I’m] far more creative.

Beyond teacher preparation or certification programs, however, teachers also referenced continuing education opportunities that further developed their pedagogical content knowledge and helped support CFT. Of note, all ELA teachers in the study specifically mentioned that their participation in the PA Writing Project (PAWP) professional development workshops had a positive impact on their CFT. Specific to PAWP, teachers noted the importance of learning new teaching strategies writing by engaging as writers. They didn’t just learn about activities to help students become better writers; in PAWP they experienced those activities from the perspective of students. These ELA teachers indicated that knowing first-hand what the student experience was
like in novel activities lowered the risk teachers felt when incorporating new strategies and activities into their teaching repertoire.

**PCK in Action Supporting CFT**

Teachers indicated that their personal experience and expertise in content and pedagogy positively impacted their CFT. In this final section, we review two examples of CFT where teachers identified a need to introduce novelty when planning instruction. The creative process described earlier—where reflection propels the individual through a cycle of awareness, imagination, and action—serves as a framework for considering the relationship between PCK and CFT in these two examples. In each example, a teacher uses CFT to make an adjustment to an existing activity or lesson; one adjusts to address a problem he perceives related to student understanding of content, and the other adjusts to address a problem she perceives with respect to the contextual appropriateness of an activity. This section concludes with a look across examples to consider teachers’ awareness of their creative activity, and a simultaneous masking effect that PCK may have on CFT.

**Example 1: PCK, CFT and adjustments for student understanding.** In the first example, Ron, a math teacher, describes how he made a planned adjustment to a previously-developed lesson in order to address student difficulties with a concept. His example begins with an earlier reflection that led to his awareness of a problem. During the previous year, Tellerstown implemented a new and more progressive math textbook series, *Math in Focus*, that resulted in significant changes to his seventh grade math curriculum. He noted the importance of implementing the new program with fidelity,
emphasizing that in the first year of using the new text, he drew heavily from the book’s example problems in his lessons in order to set students up for success practicing the book’s problems independently for homework. That said, during the previous year, he had earmarked this particular lesson’s problems as being difficult for students to successfully navigate. “So, having taught it before, I kind of know what the pitfalls are going to be, so I knew this was going to be an issue [if I didn’t make an adjustment]. So it was just kind of a hanging thing like, this didn’t go as great as I wanted it to.” In reflecting, Ron used his PCK to hypothesize about the source of the problem. “When problems included fractions and decimals, which the book loves to just throw in there, then students seem to have difficulty, because you have fraction and decimal operations on top of combining like terms. So I wanted to isolate the Algebraic skill of combining like terms. That way I could see if they don’t understand that concept or if it’s the fractions and decimals that are really messing them up. I can isolate the objective.” He also wanted to teach the concept of adding like terms more concretely, in case the abstract nature of adding and subtracting variables was also problematic for his students.

When imagining possibilities, Ron created a new set of warm-up problems, called “Adding Minions,” where he created mathematical expressions that used pictures of different Minions from the movie Despicable Me in the place of variables, and the Minions had integer coefficients in front of them. Problems increased in complexity, starting with Minions that were dressed alike. The next example involved two differently dressed Minions so students could see concretely which terms (Minions) could be combined in the expression. Examples and practice problems that followed had more Minions, then a variety of LEGO action figures, then traditional variables, and finally
algebraic expressions with more complex coefficients that included fractions and decimals.

Put into action, Ron’s new plan was successful in helping students to better understand the Algebraic concept of combining like terms; he commented that, “Combine the Minions” became a catch phrase that he and students used long after the Minion representation had been replaced by more conventional variables in mathematical expressions. It would have been easy to visit Ron’s classroom on the day his students were “adding Minions” and admire his nod to pop culture that his students appreciated. Perhaps a visitor or his students might acknowledge the novelty of incorporating yellow and purple Minions into math problems. But the pedagogical content knowledge that inspired these warm-up problems remained hidden from view. The Minions were visible, noticeable, or even memorable, but the fact that they were a concrete representation for a more abstract mathematical concept was invisible. The CFT that Ron employed involved accurately assessing the context of his classroom to identify a curricular need, recognizing the shortcomings of his textbook-based examples from the previous year, and understanding how to adjust his lesson by creating a new set of warm-up problems. His PCK allowed him to create and sequence new example problems and mathematical concepts in a way that led to better student understanding, scaffolding his problems to temporarily remove one extraneous concept in order to bolster student understanding of the core concept. Then, once students understood that idea, he moved back into the more complex coefficients and problems that the book expected students to complete. In order for this kind of novelty and value to be introduced, Ron’s CFT required his pedagogical content knowledge.
Example 2: PCK, CFT and adjustments for appropriateness. In the second example, Anna, a Social Studies teacher, described a situation from her work where she determined that an activity she has found valuable for several years suddenly required an adjustment in order to remain appropriate.

We're looking at the different roles of the president, from Chief of Staff, the Chief Executive, to Commander and Chief. After we go over all the roles, we give students a list of newspapers and news sources to go to online, and they have to find articles that show the president acting in various roles and then summarize the article, saying, ‘here the president's acting as Chief of State because he is doing this or this.’ I've probably done this assignment almost every year I've taught.

As her students began working on the assignment and Anna circulated to check their progress, however, she began to question the appropriateness of this assignment that had worked for many years. “Almost every article that they found and read [this year] had something inappropriate about Donald Trump in it that would detract from the whole role of the president. You know, he was at a rally, which is a role of a president to campaign for his political party. But he would make disparaging comments about immigrants or the wall or, you know, take pot shots at other politicians [and these comments were detailed in the articles].” The president’s controversial comments had little to nothing to do with the roles of the president, but Anna sensed that they created a major distraction that undermined the purpose of the assignment. Furthermore, some of the president’s comments contained inaccurate information about the subject matter Anna was teaching. “I [had] just taught, you know, how you change the constitution through an amendment and the arduous process of amending the constitution. And then two or three days later, Donald Trump had said (paraphrased), ‘well, you know, I think it's
ridiculous that if you're born here, you're a citizen. I'm gonna write an executive order.’
And kids asked, ‘can you write an executive order to override an amendment?’”

Unlike Ron, whose reflection on the need for something novel began last year,
Anna’s example of CFT began in the midst of the Action phase this year, where her
action involved an activity that was part of her existing instructional repertoire. In the
midst of her action, however, Anna reflected and became aware of several problems:
students were reading offensive comments made by the president, some of the president’s
comments contained inaccurate statements about subject matter that Anna was
responsible for teaching, and the comments were detracting the intended purpose of the
assignment. Anna also worried about potential parent reactions from engaging students
in the assignment, even though the assignment or her intentions had never been
questioned in previous years. “I am sensitive to the fact that there are students here with
different political leanings. … I was like, ‘am I going to get blowback [from parents] on
that?’ That night I was a little worried…and, you know, I checked my email first thing
the next morning when I came in. I was like, ‘okay, there's nothing here.’” Still, she
concluded, “I could never do this assignment again [in its current form] as long as the
politics are like they are now. So I need to think creatively about how to access the roles
of the president and still make a current events connection.”

Anna began generating possibilities for how to address the problems of
appropriateness that she recognized. In terms of the immediate situation in her classes,
Anna put into modified the assignment’s expectations to only require identification and
reflection on a single article instead of multiple articles, thereby shortening the
assignment to a one-day activity. In lieu of a second day of work on the assignment, she
also spent time clarifying the content-related inaccuracies with balanced supporting evidence from constitutional scholars of different political leanings agreeing that the Constitution cannot be amended through an executive order. While these solutions were put into action immediately, Anna has plenty of time to reflect and continue generating possibilities for this topic next year. She identified several possibilities already. Some involved making the activity less open-ended: providing students with a curated bank of articles that she has vetted for content. Other options might reduce the instructional time devoted to the roles of the president, eliminate the activity, and replace it with more time devoted to the electoral college. Anna noted that she and some colleagues would be devoting some time this spring to doing a source reevaluation in which they review different resources available to Social Studies teachers that address a range of topics, and the roles of the president would be an area of focus while they conduct that review. In this regard, Anna has yet to complete the creative cycle, since any of these actions will not be implemented until next school year.

In this example, Anna recognized a need for novelty that was based on her understanding of context and appropriateness. Unexpected challenges diminished the value derived from her existing activity this year. Again, Anna drew upon her expertise to recognize the problem, generate possibilities for addressing it, and determine which actions were most appropriate for her context. Anna’s content knowledge helped her to correct misinformation, and she identified a new, powerful and legitimate source for student misconceptions about her subject matter, thereby enhancing her PCK. Her PCK also allowed Anna to consider which alternate forms of representation for the subject matter would be most useful in meeting goals related to content and civil discourse.
PCK and potential masking of CFT. The two examples discussed in detail provide insight into how teachers use PCK to make in the common, everyday adjustments to existing lessons or activities through creative processes. We know from earlier findings in this study that everyday creative processes frequently go unnoticed by teachers themselves, but Anna and Ron considered these situations to be examples of their CFT. In each example, however, there was an important element that made the situation noticeable or memorable for the teacher. For Ron, that was using Minions and LEGO figures as concrete stand-ins for abstract variables. He had never used this association when teaching Algebraic concepts; combining pop culture with math in a way that was meaningful for conceptual instruction made this event memorable. For Anna, navigating the perils of incorporating current media-based examples of the executive branch of government in action with a President who made unpredictable comments that some find offensive weighed heavily on her mind. These factors first made the teachers cognitively aware of the examples and subsequently led them to identify the examples as creative.

Considering these examples as creative products—warm-up problems with Minions and the shortened research activity—quickly revealed the presence of novelty and value. On the other hand, the creative process that yielded these products and required their use of PCK was also present but much less noticeable to teachers, despite the presence of novelty and value within that process. In both situations, teachers used PCK to form an accurate understanding of their immediate context and identify the need for change—novelty—during their planning. They then used their PCK to make adjustments to lessons and activities that provided value and appropriateness for the
context. And because the novelty and value were included, the underpinnings of these examples involved CFT regardless of the Minions or the risks accompanying the President’s comments. But because PCK is embedded into the everyday expectations for teachers’ work and simultaneously used in creative processes, PCK may have an unintended masking effect. Ron explained his own struggles with seeing novelty in his practices, noting that he frequently makes adjustments when he becomes aware of a need. “I’ll say, ‘oh, they need more examples because they’re having trouble’ or ‘let’s go over some basic fraction problems before integrating with the more complicated concept because they’ll have difficulty with the fraction part.’ But that’s not necessarily creative, because it’s not novel.” Paradoxically, introducing novelty by making adjustments to his instruction and supplementing with new problems is no longer novel to Ron, because these practices have become part of his routines. Therefore, the expertise and PCK that teachers develop eventually render some forms of novelty and value from CFT invisible to teachers through their association with “good” or “effective” teaching.

Summary

Creativity has domain-specific properties, and creativity for teaching has characteristics that distinguish it from creativity in other domains. Within the domain of teaching, however, further distinctions exist that are demarcated by subject matter boundaries. Although common biases exist, in which people frequently associate creativity with the arts more so than other subjects, creativity is applied in all subjects. Subjects of Art, Music and ELA involve the production of creative products that are more readily perceived and understood by common individuals outside of those disciplines.
The curriculum associated with each subject produces a unique network of constraints and opportunities that teachers perceive, and through which teachers direct their CFT. Lastly, teachers used pedagogical content knowledge when applying CFT, but this takes time for teachers to develop and may mask examples of CFT as merely “good teaching.”
CHAPTER 7

DISCUSSION

Context

The need for individuals to use creativity in a rapidly-changing world is widely accepted. As a result, teachers are expected to develop the creativity of their students; but challenges abound in the creativity literature related to definition (what is creativity?), scale (do small, everyday innovations still count as creative?) and choice (how and when do individuals decide to take a creative rather than routine approach, and what influences these decisions?). Most of the literature at the intersection of creativity and teaching focuses on teaching for creativity—what teachers can do to facilitate the development of creativity in their students. Out of this literature comes the ironic finding that teachers should model creativity for their students, but a line of explicit inquiry into what it means for teachers to use creativity is under-pursued.

This study sought to better understand this frequently-neglected construct—creativity for teaching (CFT)—by drawing upon teachers’ own accounts of (a) how they see CFT relating to themselves, their colleagues, and their profession, and (b) what factors support or limit their CFT. In an effort to produce a more robust picture of CFT, this qualitative study drew from teachers’ reflections that blended big and everyday examples of CFT; personal CFT and CFT they see in other teachers; and examples and non-examples of CFT from their professional practice.

The phenomenon of Creativity for Teaching, as described by the teachers of this study, did not map neatly onto the research questions; instead, three stories about CFT
emerged from this study that are generative to the field of education. First, the existence of CFT was confirmed as a domain-specific phenomenon, but the very individualized nature of novelty and value inherent in CFT makes this phenomenon easy to overlook, frequently resulting in teachers who do not think of themselves as creative. Second, although teachers apply CFT in all four of Danielson’s Domains for Teaching, they primarily recognized creativity in their planning and preparation. In other domains, CFT was obscured—attributed to “good teaching,” hidden by the teachers themselves due to a culture of humility, or completely outside of teachers’ metacognition due to the frantic pace and complexities of daily teaching. The final story shows that teachers of the Arts have much to offer to the understanding of CFT, but not because of the stereotypes and biases that associate creativity with art and music; rather, the understandings of art and music teachers were grounded in much more accessible everyday notions of creativity that other teachers identified as important but struggled to recognize in their own practices. Taken together, these stories confirm that teaching is a profession that requires extensive creativity; however, the creativity of teachers is often hiding in plain sight—omnipresent, but imperceptible to others and frequently out of the metacognitive activity of teachers themselves. In this chapter, an understanding of these stories will be used to revisit and critique the hypothesized conceptual framework from Chapter 3, and then a new conceptual framework will be proposed to more accurately reflect the phenomenon of CFT that emerged from this study. Lastly, I will discuss the implications this new understanding of CFT provides for discourse, school-based leadership, and professional development.
Story 1: CFT Requires Novelty and Value as Individualized Constructs

Throughout the study, all participants referenced the importance of creativity in their work as teachers. They found value in using creativity to handle complexities of teaching; facilitate learning with diverse groups of students; develop meaningful interpersonal relationships with students, parents and coworkers; facilitate and encourage student creativity; manage change that accompanies the work of teaching; and balance the sense of structure found in schools and teaching with a sense of fun, playful exploration or self-expression. Despite noting the importance of creativity in their work as teachers, many teachers in this study had a difficult time describing themselves as creative.

At a first glance, this seems to support the work of Fryer (1996), who concluded that teachers do not see themselves as creative because the adjectives teachers selected as most like them did not reflect adjectives associated with creativity. Some of the teachers in the present study explicitly offered other words—organized, caring, and a leader, for example—that they believed to be more fitting descriptors than creative. Some teachers even suggested that, while being described or having one’s work described as creative by someone else was a compliment, there was a negative connotation with ascribing such an identity to oneself. Doing so seemed to violate the cultural norms of deference and humility. These explanations seem to be issues of identity or culture, rather than practice.

Although many teachers shied away from identifying themselves as creative, all were able to identify examples of using creativity in their work as teachers. The examples they provided were telling. Examples came from first impressions and critical incidents where teachers used their own definitions and impressions about creativity to
select, as well as an everyday creativity log where teachers reflected on their practice using a standardized definition of creativity. Despite the fact that these teachers had participated in several years’ worth of professional development activities related to student creativity and teacher artistry, the data collected in this study still reflected several tensions that are found throughout the literature on creativity.

When asked to provide an example of creativity for teaching from their own work, teachers set a very high bar for what counts as creative. Examples from these critical incidents were likely to reflect a sense of ownership and pride, where the teacher typically worked alone to develop some kind of lesson or activity “from scratch.” These first impressions from teachers placed a high emphasis on novelty; in many of these examples, novelty existed for the teacher, as they developed something that was completely new. But novelty was also reflected in how teachers talked about these examples with respect to their students. Teachers described these examples of CFT as “memorable” departures from classroom routines that students would recall years after the fact. In some cases, these examples addressed or facilitated student creativity, but many were not connected to that particular goal or outcome. These initial examples that teachers provided also reflected an investment of time; these activities or took considerable amounts of teacher planning time to develop and/or larger blocks of class time to implement. In short, what teachers described when initially considering CFT were “bigger-C” examples of creativity; however, the infrequency of such examples seemed to be in discord with the everyday nature of the reasons teachers cited creativity was important in their work.
Teacher reflections and examples collected through Everyday CFT logs further supported the notion that teachers’ reluctance to describe themselves as creative may reflect the relative infrequency of CFT of a larger scale more than an absence of CFT from their professional practices. The Everyday CFT logs introduced the concepts of novelty and value within a given definition of CFT for explicit consideration when providing examples. Although a few examples still reflected “from scratch” qualities from teachers’ initial examples, the everyday examples of CFT reflected novelty of a much smaller scale. Most teachers cited examples where novelty involved combining, repackaging, synthesizing, adjusting, adapting, refocusing or revising previously existing materials. Teachers also found novelty for themselves in activities, lessons or materials that they “borrowed” or “stole” from other teachers or sources. As Smith and Smith (2010) noted, novelty for teachers frequently meant “new to them.” Depending on how well the borrowed material suited the teacher’s goals and his or her students’ needs, the teacher may have made adjustments to the borrowed materials. Teachers also introduced novelty into their own existing practices, activities, and routines in order to meet a variety of goals related to their teaching responsibilities, and these resembled the six themes for why teachers saw creativity as important in the work of teachers.

The second hallmark characteristic of creativity, value, was also evident in Everyday CFT examples. Teachers considered value as a forward-looking consideration before implementation, rather than a retrospective evaluation of success. As such, whether or not something “worked” had little effect on whether teachers considered the practice creative. Novelty trumped value in deeming the activity creative. Instead, the teacher’s sense of value determined whether an idea including novelty was put into
practice in the first place. If, given the teacher’s understanding of the immediate situation, the novel idea was expected to work and deemed the best course of action at the time, it went into practice and was deemed creative. This contextual value of CFT therefore resembled “appropriateness,” and served the role of placing limitations or boundaries on novelty in teachers’ practices. CFT involves novelty, but too much novelty or novelty of the wrong kind might undermine the accomplishment of any number of goals the teacher needs to consider. In determining the potential value of novel activity in one’s practices, the teacher continually reads the context in which he or she is working to assess the level of risk associated with breaking from routine. Negotiating these risks highlights the centrality of choice in CFT; teachers are constantly deciding between routine approaches and options that introduce novelty in a variety of ways and degrees.

In reflecting on their CFT, teacher responses revealed a strong tension between definitional conceptions of creativity. Examples of CFT that teachers provided were episodes or events, not moments, revealing a process that resulted in the previously discussed characteristics of novelty and value. They overwhelmingly agreed that the process of reflecting in order to recognize problems or opportunities, imagine possible options, and take appropriate action was central to their CFT examples, large and small, and central to all of their primary responsibilities as teachers. But while this reflective cycle is prominent in process-oriented models of creativity, teachers also recognized that this cycle was alive and well in their everyday activities, even when they did not see themselves introducing novelty. This produced some dissonance for teachers as they attempted to characterize CFT. On the one hand, their examples of CFT would not exist
without the creative process; on the other hand, some of the actions and products that this process yielded were routine and lacked novelty. That suggested to teachers that their CFT could not be solely about the process; there was some importance in the qualities of the end product or action. When asked to choose whether product- or process-oriented representations of creativity described their CFT best, teachers balked; they saw both models present in their work.

Teachers agreed that CFT was important to their daily work, but many noted that they do not think of themselves as creative. The methods of this study served as an intervention, getting teachers to broaden their initial conceptions of CFT to include process-oriented conceptualizations and creative products much smaller in scale, but the very individualized nature of novelty and contextual value inherent in CFT makes this phenomenon easy to overlook, even for teachers considering their own practices.

**Story 2: CFT in Planning, But Not in Grading**

In recent years, the Danielson (2007) Framework for Teaching has gained prominence as a tool for teacher evaluation and improvement, organizing the activities of teaching into four domains: Planning and Preparation, The Classroom Environment, Instruction, and Professional Responsibilities. Affirmative responses in the Everyday CFT log revealed that teachers used creativity in activities spanning four of Danielson’s Domains for Teaching. Although they acknowledged using CFT in all four domains of their responsibilities, teachers primarily located CFT within Planning and Preparation, and at the other extreme, teachers failed to see grading as a professional practice requiring creativity.
In large part, CFT emerged in teacher practices because teachers identified a need to break from routine practices and then intentionally incorporated novelty into their planned activities. Teachers most easily recognized this in large-scale examples from their practice. Their initial impressions of CFT favored highly memorable activities that stood out against daily routines. One factor that contributed to the memorable nature of these examples was a high investment of time in the activity. Teachers recognized a need or opportunity for novelty, planned extensively to develop new classroom activities, and implemented these activities, frequently over a period of several class periods. And although these examples were novel and valuable in retrospect, the infrequency of creative products of this scale in teachers’ professional activities seemed to contradict the everyday necessity of creativity that teachers identified when justifying its importance for educators.

When this study prompted teachers to reflect on their everyday CFT and further prompted them with a definition that referenced both creative products and processes, a more utilitarian, small-scale construct emerged for CFT that supplemented the examples dominating initial impressions. Teachers recognized countless examples of incorporating novelty and value into their everyday practices as they worked to address needs that were specific to each of their classes, and even to individual students. Unanticipated or spontaneous events were noted in teachable moments, student questions or comments, institutional disruptions to the schedule, and even teacher-initiated episodes of humor or storytelling, and teachers made adjustments to their planned activities. That said, however, the micromoments (Beghetto, 2009) and disciplined improvisation (Sawyer, 2004) of classroom instruction in which small-scale CFT might be expected were largely
overshadowed during recollection by teachers’ acute awareness of their own activity and impact during planning. The responses in which teachers saw CFT typically involved revisiting these classroom episodes and disruptions during planning time in order to address them more comprehensively. When teachers made adjustments and responded to spontaneous events mid-lesson, they were more likely to attribute this to “good teaching” than acknowledge it as an example of CFT. Although small levels of novelty were still involved in such examples, there was a humility evident in teachers’ reflections; teachers were reticent to call attention to their own activities by calling them creative, but behind their modesty was a paradox about CFT. Because handling the unexpected, responding in dynamic ways to the ebb and flow of classroom activities, and adjusting the pace and content of classroom instruction mid-lesson based on student needs were seen as professional realities that good teachers could handle, teachers ceased to notice the novelty in such events; in novelty, “good” teachers saw routine.

Metacognitive awareness appeared to play a large role in teachers’ perceptions about their CFT. When planning, teachers reflected on their own goals and the needs of their students in order to develop or select the most appropriate course of action, whereas in the moment of classroom instruction, teachers frequently relied on experience and automaticity to immediately address a situation without derailing the lesson. But metacognition in and of itself is only part of the story. The realities and frantic pace of teachers’ daily professional lives demand that such metacognitive activity take a backseat to the automaticity required by the complexities of the classroom. Teachers recognized the link between creative processes and their own processes of planning for instruction. But while teachers were aware of using CFT during problem solving, they were much
less likely to recognize CFT’s connection with the beginning phase of the creative process, where assessment of the situation results in the identification of a problem or opportunity worthy of reflection and consideration. Given teachers’ unawareness of this important link, it is not surprising that much of this assessment for teachers happens in the classroom, in tandem with a myriad of other teaching activities like providing instruction, managing student behavior, motivating students to think critically, attend and work hard, and nurturing productive relationships with students so they feel valued and respected as individuals. The teachers of this study participated in up to 10 years of professional development activities related to the creative process; they were prompted with a definition for CFT that acknowledged the creative process; they cited multiple episodes from their own practice that included large and everyday CFT; they acknowledged that their ideas about creativity expanded as a result of their reflection and activities associated with this study; and still, these teachers struggled to see CFT that was not connected to their off-stage planning and preparation. This underscores the importance teachers find in their planning, as it relates to CFT, but it also serves as a reminder of just how frenetic a teacher’s day happens to be. Even in favorable conditions, teachers just do not have time to notice what they are doing—and resultantly notice their CFT—outside of their planning time.

Lastly, one particular kind of assessment—grading—is worthy of consideration. One might think that grading, which typically takes place during this quiet time outside of the flurry of classroom activities, would be one form of assessment that teachers were able to notice, and therefore connect with CFT. On the contrary, teachers did not see grading as one of their teaching practices that involved creativity. Even teachers who
considered themselves creative and described grading practices and philosophies that were known to be novel when compared to colleagues vehemently denied any association between creativity and grading.

Strongly entrenched in the institutional norms of teaching was the expectation that grading was to be objective, not subjective. To use creativity in grading may seem to teachers like something that might risk delegitimizing the profession. The teachers in this study designed novel rubrics for grading new projects or took a new approach to providing feedback while grading essays, but in reflecting on these practices, the teachers assigned the creativity to the more appropriate domain of planning to grade. The actual grading itself required the outward appearance of fairness and consistency; not novelty and flexibility. When exceptions were made, teachers referenced Individualized Education Plans (IEPs) or special cases for students who were English Language Learners and receiving specialized programming that officially sanctioned the use of flexibility with respect to the teacher’s grading standards. Outside of these examples, one teacher mentioned wrestling with a sense of conflict she felt internally when assigning grades, referencing her struggle with a “gray area” she perceived in a context that is easier seen as black and white.

To teachers, grading was a special category that ran counter to the flexibility teachers said was involved in CFT. In an era of standardization and accountability, CFT was something teachers acknowledged and applied to help students meet high standards in subject matter knowledge and skill development; it was not, however, typically considered appropriate to use creativity in the official measurement of students’ progress against those standards.
In summary, teachers acknowledged their use of CFT across a broad range of their instructional activities, but most strongly identified CFT in their planning for instruction. They associated CFT with the creative processes associated with planning but did not recognize the connection of this process to assessment or problem-identification, frequently encountered amidst the complexities of classroom activity. Teachers did not see CFT as something appropriate for use in their grading practices. All of these situations highlight how the infrastructure of teaching and its accompanying institutional norms may, at times, render the teacher unable to recognize aspects of their CFT, or unwilling to apply CFT in certain contexts. These blind spots need to be recognized and addressed so that teachers are able to accurately assess the contextual value of professional practices that do or could benefit from the infusion of novelty.

**Story 3: CFT, The Arts, and Teachers of the Arts**

Teachers’ first impressions about creativity reflected many widely-held biases. Despite a ten-year history of district work helping teachers develop a broader understanding of creativity, teacher-participants in this study still found themselves fighting against first impressions that associated creativity with the arts, emphasized creative products that were larger in scale and impact, and associated creativity with personality traits held by a small group of individuals. Fortunately, all of the participants were, indeed, able to move beyond these biases when reflecting, following statements that revealed their initial inclinations with the conditional, *but:* “I don’t really see myself as creative, BUT I set a really high bar for myself.” “You wouldn’t really think of creativity as being associated with math, BUT it is” (emphasis added).
Some of these biases seemed easier to move past than others. Although connections to art and music were still easiest for teachers to notice, they all possessed an understanding of how creativity could connect to any discipline. Teachers had an academic understanding of conceptions of creativity related to products, processes and personalities, but had a more difficult time separating their personal orientations for creativity with their professional practices that embodied various representations. After prompting through the given definition for CFT, process-oriented conceptualizations of creativity resonated the best with teachers’ everyday practices and the ways in which they developed products they considered to be creative. However, the model that Tellerstown School District used with its student creativity initiative was also grounded in process; the extent to which this may have influenced teacher responses is unknown. Lastly, teachers still had strong orientations toward conceptualizations of creativity that emphasized products of larger scale. Their impressions about examples that were memorable and time-intensive overshadowed the much more prevalent everyday examples of CFT, frequently rendering them invisible to teachers without specific prompting.

In light of these findings, teachers of the Arts stood apart from teachers of core subjects and might be of particular value in promulgating notions of creativity that are helpful to all teachers. Comments made by core teachers frequently acknowledged that they saw their art and music teacher colleagues as creative; they frequently recognized personality traits in teachers of the arts that they admired but saw as different from their own. Art and music teachers engaged in their respective disciplines as artists and musicians, and they developed visible (or audible) products that other teachers
recognized and thought of as creative. Teachers identified a frequency of perceptible creative production of art and music teachers that exceeded their own. Lastly, core teachers recognized novelty in the work of art teachers and music teachers, perceiving differences from their own professional practices.

From these impressions, it would be easy to conclude that creativity does, indeed, have a primary residence in the Arts; however, the reflections of art and music teachers themselves revealed a very different picture of their own creative activity that contrasted sharply with the impressions of their core teacher counterparts. Where core teachers associated personality traits with creativity, art and music teachers acknowledged confidence and principled conviction. They described their patterns of behavior less as a predestined disposition, and more as a decision to see things in a particular way that was open to new possibilities. While they acknowledged having a high degree of comfort with that stance, art and music teachers emphasized this as a personal choice that any teacher could emulate.

Core teachers saw artistic or musical products as creative, but teachers of the Arts made a distinction between applying a technical skill—which they saw as required but insufficient for creativity—and infusing novelty into the application of that skill. The novelty most core teachers saw in artistic products was merely a technical skill they did not possess, not true novelty for the artist. Art and music teachers perceived gradations in the scale of creativity in their fields from small and personal to large and groundbreaking, making it easier for them to recognize small examples of their own creativity in everyday activities. Teachers of the Arts were also very cognizant of the processes that enabled them to develop creative products in their discipline but
acknowledged that these processes were accessible to anyone in any field. Core teachers associated creativity with a lack of constraints; however, art and music teachers recognized creativity as the ability to operate flexibly within a set of constraints or parameters, as a jazz musician improvises within the chord structure of the song or an artist produces art that is tailored to a purpose or benefactor’s requests. Where core teachers envied what they perceived as a freedom from curricular constraints that enabled art and music teachers’ CFT, teachers of the Arts emphasized the need for extensive subject matter knowledge and pedagogical content knowledge in CFT that enabled them to design valuable curricular experiences for students.

In summary, core teachers thought of art and music teachers as creative, revealing first impressions that bore a resemblance to some common biases in creativity. Art and music teachers also saw themselves as creative, but not for the reasons provided by core teachers. Teachers of the Arts saw themselves as creative because their understanding of creativity was substantial and broad enough to include small-scale everyday products, processes that developed creative products, and decisions that allowed them to embrace novelty and apply it in ways that were appropriate to their context. Teachers of the Arts acknowledged that creativity is included in the discourse surrounding their disciplines, helping them from the very beginning of their careers to develop broad conceptualizations of creativity that extend beyond superficial stereotypes; see themselves as creative; understand how creativity connects to their subject matter; and develop a familiarity and comfort with fostering creativity in their students. Core teachers looked at teachers of the Arts and saw difference; art and music teachers looked at core teachers and saw commonality. Art and music teachers saw themselves as
creative, not because they were doing something radically different from core teachers; instead, their understanding of creativity allowed them to recognize CFT that was still invisible to core teachers when they reflected on their own practices. Therefore, it is this expertise and depth of understanding about creativity that art and music teachers are more likely to possess that establishes these teachers as potential leaders for creativity in their building.

A Critique of the Hypothesized Conceptual Framework for CFT

The findings and the three stories of CFT that emerged from this study reveal several shortcomings in the hypothesized conceptual framework of CFT (Figure 2 in Chapter 2). Teachers were frequently unable to identify a moment of inspiration associated with their creative activity, and, likewise, they were unable to separate the resulting action of their creativity from the rest of their related activities. Instead, the activities of teaching tended to blur together, addressing overlapping goals and making it difficult to tell where one activity ended and the next began. What teachers were able to locate and identify was an association between creativity and their planning. Planning time was where teachers were present, owning their activity, and reflecting on their goals and student needs. Handling the complexities of their profession may make them less aware of moments and more cognizant of events that span time. As a result, events or situations that teachers talked about spanned multiple Danielson domains and frequently lacked a definitive moment of inspiration or application.

In some cases, the inspiration alluded to by teachers was more like a feeling of desperation, recognizing that something was not working and that a change was needed
in order to accomplish one or more of their goals. At other times, teachers described normal, everyday planning. They did not set out to be creative, but their planning happened to result in a creative product. Sometimes inspiration looked less like a moment in time and more like an ongoing reality of circumstance. In other examples, teachers recognized multiple factors that built up over time, but they were only able to address these later when they had the time or opportunity to do so. Regarding application, teachers noted that they were applying creativity throughout their example. The resulting product that emerged—whether an activity, question, project, lesson, relationship, or assessment—was visible and may have reflected novelty, but teachers primarily located creativity in their personal activity that went into developing the final product.

In this regard, conceptions of creativity with a process orientation make sense to teachers. This is what they do in the pedestrian tasks of teaching. But teachers were frequently unaware of the “awareness” phase of the creative process. Teachers were constantly assessing and reading the room. Are students understanding? Are students engaged or motivated? Do I need more of this? Less of that? Teachers constantly adjusted the knobs and levers of their practice based on their assessment. But because the assessment was an ongoing part of their practice, they were no longer metacognitively aware of these practices or of how they related to their planning. Or they saw assessment and adjustment as “good teaching,” invisible in the sense that identifying new problems or opportunities was incorporated into their routines. Frequently awareness was as pedestrian as considering what subject matter needed to be taught next—something so common that teachers fail to recognize that as something they are even doing.
The Reflection-Imagination-Reflection that follows the awareness stage is the heart and soul of teacher creativity, where teachers consider many questions: What do I need to do (reflection on goals and objectives)? What could I do (considering options and possibilities)? And what will I do (reflecting on options and selecting the best to put into action)? Ultimately, these questions describe a teacher’s activity while she plans and prepares to teach. Teachers recognized that creative products or examples of CFT were generated by this process because it is what teachers do all the time. But this process did not necessarily yield outcomes that were novel; teachers frequently selected tried-and-true methods and existing practices as the most appropriate for a given situation. The creative process was also limited by the amount of time teachers have available. As a result, the number of possibilities generated by teachers when imagining ways to address the problem or opportunity looks very different from the formalized CPS model (Osborn, 1953). Hampered by time constraints, teachers frequently relied on others, researching, borrowing or stealing ideas from other teachers, rather than “reinventing the wheel.” Lastly, representing the creative process as a cycle suggests that teachers may work through several iterations as they refine their actions or products in response to a particular problem or opportunity. But teachers described this cycle in a way that was disjointed over years. If they applied the process to a particular lesson or activity that they planned and developed, they may not get another chance to revisit it, or if they do, it might not be until next year. The lesson or activity is over. The moment has passed, and the teacher moves on to the next topic or activity, making a note to himself of changes to consider next year.
Environmental influences are certainly present and impact CFT, but the hypothesized conceptual framework neglected to represent these influences as a relationship between the environment and the individual. Just as the environment produces contextual variables that influence CFT, the teacher himself or herself brings variables in the form of his or her perceptions about those contextual variables. Teachers bring their own experiences and pedagogical content knowledge to help them read the context and take appropriate action. The hypothesized conceptual framework neglected to include the teacher’s own piece. As teachers become more experienced, they have many more options in their repertoire. Things they do as experienced teachers that are different from other teachers become invisible to them. It is just part of what they do.

**A New Conceptual Framework for CFT**

This suggests a differently constructed conceptual framework for discussion and consideration moving forward (See Figure 3). Instead of emphasizing products or processes, the newly proposed conceptual framework focuses on the core characteristics of novelty and contextual value. And because CFT requires a personal frame of reference for novelty and value, the proposed model represents CFT for an individual teacher. The model utilizes two concentric frames to divide the space into three regions. At the center of the model is the teacher’s repertoire of existing professional practices, loosely bounded by a frame. Every activity, lesson, strategy, idea, or approach that the teacher does not currently have in her repertoire is outside of this first frame. The frame is perforated, since a teacher’s practice is constantly evolving. When the teacher introduces novelty to her existing practice, this involves moving beyond the internal
frame to something that did not previously exist in the teacher’s repertoire in this particular form. In the vast world of possibilities of adjustments, adaptations, combinations and completely new ideas, strategies, activities, lessons, and practices beyond a teacher’s existing repertoire, however, not all are of potential value to the teacher. The second perforated frame therefore represents a boundary of perceived contextual constraints that the teacher associates with value. The possibilities that hold potential value for the teacher are inside this frame, while those possibilities perceived to be unproductive lie outside the frame. Defining the boundary represented by this frame are the contextual factors related to goals and teaching activities, subject matter, students, people, self, and environment. Because it involves properly reading the context, this frame could also be interpreted as the expected boundary of appropriateness. To the teacher, practices that lie within this outer boundary mean that “In good faith I can
implement this novel plan/strategy/technique and reasonably expect that it will provide incremental progress towards my intended goals as a teacher without undermining other goals in the process, even if it ultimately fails.”

Based on teachers’ discussions about CFT from this study, CFT lies in the region between the two frames. Examples of CFT contained novelty (outside the first frame), but not too much novelty that would cause the activity would be counter-productive to the goals the teacher had in mind (inside the second frame). Both frames are perforated in that the teacher theoretically has free range over his activities but decides for himself which activities are worth the risk associated with introducing novelty. The frames are also flexible to allow for changes in the teacher’s practices and perceptions over time. As novel practices are successfully introduced, the teacher’s repertoire expands and the internal frame grows larger to accommodate. If the teacher introduces novelty, but misreads the context and the activity fails, the teacher adjusts his external frame in a constricting manner. As the teacher develops increasing amounts of pedagogical content knowledge or develops a different way of seeing his curriculum that allows for more flexibility within the existing structure, his external frame expands to include more possibilities.

Aside from providing a new visual representation for the relationship between novelty and value in CFT, the model also helps to address some of the tensions inherent in teachers’ conceptions about CFT. First, it helps to explain and represent differences between teacher responses when considering a common option in their practice. They may look at the same product and come to different conclusions about whether or not the product is creative. The new framework represents CFT for an individual teacher. One
could therefore draw two different sets of concentric frames to compare Teacher A and Teacher B. Teacher A and Teacher B will likely have different existing practices based on their experiences, so what is novel for Teacher A may not be novel for Teacher B. If examining a particular product—a lesson or a classroom activity, for example—that Teacher A and Teacher B are both considering, Teacher A might view it to be really creative, locating it in his CFT zone between frames. At the same time, the repertoire of Teacher B might be larger and encompass the lesson or activity under consideration, thereby leading Teacher B to disagree, saying, “that’s just good teaching.”

Alternatively, two teachers may both see novelty in an option under consideration, but while one teacher sees the option as valuable and puts it into action, the other may locate the option outside the boundary of appropriateness, determine the risk as too great, and avoid implementation. The constraints that teachers perceive as limiting the novelty they may be willing to introduce can be very different. Subject matter, the school in which they teach, or what their students’ or parents’ expectations may be all exert influence on how, when, or where teachers incorporate novelty into their practice. There exists a push and pull between the environment and the teacher’s perception of that environment; both contribute to determine the placement of the outer frame.

Even though the earlier framework (Figure 2 in Chapter 2) acknowledged the creative process, the linear representation of CFT towards application emphasized products. But a product-based model is problematic with a concept like CFT that requires sensitivity to differences between individuals. A product-based model works in a systemic view, where the novelty in a product is recognized by everyone in the field.
(Nobody else has thought of this or done this before.) But teachers do not really care about what other people are doing. Their view of what matters is based on the extremely local context of the teacher’s individualized goals to address the needs of the particular students in front of her. Just because something worked for Teacher A with her students does not guarantee that it will work for Teacher B with his students. In their comments, teachers implied, “Your students are different from my students; your school is different from my school; your subject is different from my subject. I can learn from what you did, and it’s good for me to hear about those things as possibilities for me to consider, but I’m going to need to put my own spin on things to address the local context of my classroom. But if what you did is working for you, but it’s outside of my contextual constraints where it’s too risky, or it’s going to take too much time, or it’s not going to work with my students, then I’m not going to do it.”

Novelty also exists outside of the frame. When teachers read the context and identify an option as outside of the value/appropriate boundary, they avoid it or modify it to bring it back into the frame. When teachers misread the context and they enact an activity that falls outside the value boundary, they learn from it, noting that the boundary is closer than they thought, and they vow not to do that activity again. When something flops but there is some salvageable value to the activity, teachers keep it in their repertoire but make adjustments for next time.

This new framework for CFT provides an important and previously missing construct for considering the work of teachers. Through this visual framework for CFT, we can make direct connections between CFT and professional growth, reflective and responsive practice, teacher activity in all four Danielson domains, and teacher goals for
student experiences pertaining to relevance and relationships. CFT, as represented by this framework, is therefore an important and essential element of good and effective teaching.

CFT exists in large and everyday examples but manifests itself differently in the choices teachers make when combining their goals, their existing repertoire of professional practices, and the constraints they perceive to be defining the appropriateness of the choices under consideration. Teachers apply novelty differently in fourth period than they did in second period. Teachers of math direct their creative efforts differently than teachers of art. Some direct their creativity towards completely new activities, while others apply CFT to capture efficiencies. New resources, ideas, or possibilities for engaging students may serve as an inspiration for CFT, while a sense of desperation may drive teachers to use CFT to find new ways to reach struggling students. Using CFT involves an inherent element of risk, as teachers step outside their existing practices. And while teachers certainly must navigate the contextual constraints that influence their CFT, CFT can be used by any teacher in even the most oppressive of environments. Supporting and nurturing CFT is therefore a shared responsibility with implications for the academy, school leaders, teacher educators, and professional developers everywhere.

**Implications for Discourse**

Teachers unanimously agreed that creativity was essential to their profession. The teachers in this study cited numerous examples of using their creativity in their professional endeavors. Given the extent to which creativity permeated almost every
aspect of teachers’ professional activity, one would expect to see this concept of creativity reflected throughout the research on teaching and teachers; however, the term is virtually absent from the discourse surrounding teaching. The fact that creativity is vital to teaching in so many ways, and yet it seldom makes it into the formal discourse of teacher practice has huge implications for teachers’ self-identity and the way they do their work.

Absent explicit mention of creativity in the literature on teaching, teachers and others are left to draw their own conclusions regarding creativity’s definition, its relevance to the teaching profession, and its place in the sense of teacher identity. Unfortunately, many teachers did not initially think of themselves as creative, despite the prevalence of creativity in their teaching practices. Teachers’ first impressions about creativity revealed biases and stereotypes that did not align with their daily work and their self-concept. But one small element in this study’s design—broadening the definition of creativity under consideration while narrowing teachers’ reflection on their practices—changed how some teachers thought of themselves with respect to creativity.

Communicating the expectation to “be creative” has significant impact on the creative output of individuals and groups, and CFT in action resembles “good teaching.” Despite this promising link, teachers find no explicit expectations about their use of creativity in the knowledge base for their profession. In a time when standards, assessment, and accountability measures dominate the discourse surrounding teacher practice, teachers also need to hear counterbalancing messages about using creativity to handle the complexities inherent in their profession and to successfully negotiate the associated risks they perceive when incorporating novel practices.
Implications for School-based Leadership

The problem of discourse is concerning and needs to be addressed; however, the responsibility for establishing the expectation that teachers understand and use creativity in their daily practices does not lie solely with the academy. The findings from this study have implications for school-based leadership, as well. Considering the important role that contextual value plays in CFT, who better to support teachers in their use and development of CFT than school-based leaders whose actions shape and are shaped by that same local context?

Just as the development of student creativity requires teachers who model creativity and constructively mold the classroom environment in which it can thrive, teachers can similarly benefit from administrators who model creativity in their work and shape the school environment. Teachers in this study acknowledged that seeing their own administrators incorporating new technology, breaking from routines, and making visible the invisible intentions and considerations that contribute to their decision-making processes gave teachers courage to take calculated risks with their own practices.

One of the responsibilities of school leaders is to facilitate and nurture the professional growth of teachers; considering the strong ties between CFT and elements of good teaching, school administrators may be able to use reflections on CFT as an alternate means for promoting professional growth. The teacher interviews I conducted through this study about CFT provoked teacher reflections on their practice that connected to all four Danielson domains, but through a non-evaluative context. This suggests the possibility that CFT may provide an alternate platform for stimulating reflection and professional growth with teachers in ways that open possibilities rather
than limit them. Considering the emphasis teachers placed on risk-taking with CFT, a professional conference linked to one’s performance appraisal seems unlikely to evoke the same kind of discussion about teacher creativity. CFT-oriented conferences may therefore be more effectively scheduled as separate conversations, distinct from semi-annual observations and appraisals.

**Implications for Professional Development and Teacher Education**

Considering the many popular biases that exist, the complications that result from multiple conceptualizations of creativity, and the lack of explicit discourse around creativity for teaching, it is clear that some shifts are required in professional development (PD) and teacher education. In order to make meaningful space for creativity in PD and teacher education, the following changes to those programs are necessary: (a) that they dispel myths, (b) replace misconceptions with democratic conceptualizations of creativity that emphasize its accessibility and utility to all individuals, and (c) empower teachers to effectively apply CFT in their daily responsibilities. Tellerstown School District was chosen as the site for this study in part because of its history of explicit PD related to creativity. The trajectory of that PD is noteworthy in that one of the initial objectives of TTSD’s PD activities was to dispel the notion that creativity is located purely within the domain of the Arts and to replace those ideas with an understanding that creativity is applicable to any domain and any subject matter. TTSD’s more recent PD activities linked creativity with artistry, where teachers reflected on connections between the processes employed by artists and their own creative practices as teachers.
In a somewhat ironic twist, this shift in perspective emphasizes the important contributions that artists and teachers of the Arts have to offer in teacher PD. If teachers are to use their CFT effectively, then they need to combine the sufficiently broad understanding of creativity, the subject matter knowledge that includes an understanding of how creativity applies within the discipline, and the deep reserve of pedagogical content knowledge. In this study, this powerful combination was evident in teachers of the Arts.

Possibilities abound when considering interdisciplinary PD that might provide CFT opportunities in creative problem solving, curriculum development, strategic planning, or designing instructional interventions. The cultural traditions of certain disciplines may hide creative possibilities from view in homogeneous groupings. Seeing which “knobs and levers” a Social Studies teacher activates when planning, executing, or reflecting on a lesson may introduce a new way of thinking to an art teacher. Understanding the questions a science teacher poses and explores may open new possibilities for a math teacher.

Also worthy of consideration are PD opportunities for homogeneous groupings of teachers by subject matter. Just as art teachers used their extensive subject matter knowledge as artists to design curricular activities, nurturing CFT in other disciplines might bring history teachers into conversation with historians, or science teachers into conversation with scientists. After all, CFT requires that teachers know and understand how knowledge is constructed in their discipline. Further to this disciplinary thinking, teachers noted that experiencing novel learning activities as a student in their discipline helped to mitigate the risk they felt when incorporating novel learning activities into their
own teaching practice. Knowing, first-hand, the student’s experience as a writer in
writing workshop activities gave teachers confidence using those writing workshop
activities with their students. CFT might therefore be fostered in PD through novel
activities that engage teachers in their subject matter as learners.

Lastly, teachers shared that reflecting on their everyday creativity was a positive
experience for them. Most participants explicitly mentioned that exploring the given
definition for CFT guided their reflections in their log entries, and that the definition was
helpful to think about what was novel and what was routine in their daily practices. This
was a new exercise for them; novelty and value had never been concepts to which they
had given much thought. Doing so led teachers to consider what they changed, why they
changed it, and how effective they thought the change was in retrospect. Ultimately, this
connected with their goals, the needs of their students, the context in which they were
working, and the many choices that teachers had at their disposal. Every example that
teachers discussed included something novel, but frequently small, that they introduced
to their practice: a new activity, a new twist on an old activity, a new strategy, an old
strategy applied to a new situation, a new resource, a new idea, a new connection, a new
spark. And each example marked a small and often unremarkable step in their
professional growth, uncelebrated and frequently invisible amidst the chaos and
complexity of everyday teaching. With each example came a reason for seeking and
including novelty: something was not working, a new problem emerged, the students
need this, or even that the teacher himself needed something novel to stay interested and
invested. And with every example that did not work, teachers gained important
experience and knowledge about their immediate context, reflecting, “I’ll never do that
again,” or, “I need to make this change for next time.” In short, teacher reflections on personal examples of CFT chronicled their professional growth regarding new professional practices and the boundaries they perceived regarding how, when, and where they introduced novelty to their practices.

**Considerations for Future Study**

This study was exploratory in nature, as it sought to better understand how teachers see creativity relating to themselves and their profession. The scope of this study was limited to one school in one district with middle-level teachers. While the findings provided a starting point for understanding the concept of CFT, more research is needed in order to understand the extent to which these findings represent the teaching profession at large. Similar studies in other districts would certainly help to further this line of inquiry. Conducting similar studies at the elementary and secondary levels might also help to provide clarification regarding the extent to which subject matter knowledge affects CFT.

The use of the Everyday CFT logs, in which a standard definition of CFT was provided to teachers, had the effect of changing teachers’ perceptions about themselves with respect to creativity when teachers initially did not see themselves as creative. In this regard, the CFT log acted as an unintended intervention. This intervention might be considered more explicitly in future studies, making changes to the given definition to determine how teacher perceptions are changed by particular elements within the given definition. A more explicit connection between CFT and teacher identity or teacher efficacy might also be explored.
Finally, this study noted connections between personal examples of CFT and professional growth in individual teachers. Although the Danielson Framework for Teaching is one tool available to administrators for organizing conferences with teachers in order to facilitate personal reflection and professional growth, its connection to teacher performance appraisals might make it counterproductive for supporting CFT. In contrast, conversations with teachers about their CFT examples facilitated teacher reflection about their practices, goals, and professional growth that did not have evaluative overtones. A framework for teaching or for professional growth in teaching, organized around creativity for teaching, does not currently exist. Future research that explores teacher reflection on CFT with a specific focus on professional growth could be of great value to the profession.
APPENDIX A

Phase One Interview Guide- Individual teacher semi-structured interview #1

(with 8 teachers)

Thanks so much for taking the time to meet with me today. As you know from our earlier conversations, I’m studying something I call Creativity for Teaching. Creativity is something that’s difficult to study because the word means different things to different people. With that in mind, I want to emphasize that there are no right or wrong answers to any of the questions I ask of you. My study focuses on teachers’ own accounts of how creativity is used in the important work of teachers.

Our meeting today should take no more than 45 minutes. I’ll begin by asking you a few questions about yourself and your background. Then I’ll ask you to provide three examples from teaching that we’ll talk about in greater detail. The first will be an example of creativity from your own work. The second will be an example of creativity you’ve noticed in a colleague. The third will be a non-example—an example of a time where you thought that being creative was not appropriate or where your work as a teacher did not involve or require the use of creativity on your part. As you know, your participation is voluntary, and you may choose to skip any questions if you’d rather not answer.

Before we begin, it would be helpful for me to record our conversation so that I can transcribe the interview and ensure the accuracy of the data I collect today. After the interview is transcribed, I’ll provide a copy for you to review. Do I have your permission to record your interview today?

1. How long have you been teaching, and what grades/subjects have you taught?
2. What do you find to be enjoyable or rewarding about teaching?
3. What do you find to be challenging about teaching?
4. When you’re not teaching, what kinds of activities and hobbies do you enjoy?
5. As we’ve discussed, different people associate different meanings with the words creativity and creative. What does it mean to you for someone or something to be creative? What words do you associate with creativity?
6. In what ways do you see yourself as creative?
7. Tell me about a time when you were creative in your role as a teacher.
a. Why did you select this incident as an example? What aspects of the situation you described make it an example of being creative?

8. Tell me about a teacher that you think of as creative. What makes you think of him/her as creative?
a. Give a specific example of something this teacher did that you found to be creative.

9. Give me an example of something you did or do in the course of your professional responsibilities that does or did NOT involve being creative.
a. Why does this example NOT fit your ideas about creative activity?

10. In recent years, there has been increased emphasis on encouraging the development of creativity in students. Is creativity important for teachers? How or why?

11. When we began talking today, you described what it means for someone or something to be creative. In your description, you mentioned __________. Before we wrap up our conversation today, is there anything that you would add to, subtract from, or change about that description?
APPENDIX B

Phase Two: Everyday CFT Log/Questionnaire Directions

Thank you for taking the time to participate in this study. As you know from earlier conversations, creativity is something that's difficult to study because the term means different things to different people. I am interested in your thoughts about how creativity relates to your important work as a teacher and how you use creativity on an everyday level over the course of three weeks. There are no right or wrong responses.

Over a three-week period, you will be sent an email reminder each day inviting you to complete a log entry through SurveyMonkey. The email will contain the unique link to your personal log/questionnaire, which you can click to complete your log entry. You do not need to respond to every daily email reminder. As you recall, you are asked to complete 5 to 10 log entries over this three-week period. If you find the process of reflecting through the creativity log to be beneficial to your practice, you may complete more than ten entries. Completing the log/questionnaire should take no more than 9 minutes each day. There are three parts to this daily log:

**Reflection on previous 24-hour period (2 minutes)**

You will be asked to reflect on your activities related to teaching over the past 24 hours and respond “yes” or “no” to whether you used creativity in particular aspects of your teaching responsibilities.

**Personal Example (4 minutes)**

Next, you will be provided with a definition of *creativity for teaching* and then be asked to describe an example or a situation from any of your own professional activities over the past 24 hours that fits the given definition.

**Reflection on Example (3 minutes)**

Lastly, you will be asked to reflect on how your example fits the given definition of *creativity for teaching*, and then identify whether particular traits from a given list fit the example, episode or activity you provided.

After you complete your three-week log, I will be in touch to schedule your final interview, where we can discuss your examples and thoughts related to this creativity log in greater detail. Thank you again for supporting my research study!

Warm regards,
John Mull
Phase Two- Everyday Creativity for Teaching Log/Questionnaire

Take a moment to reflect on your work as a teacher over the past 24 hours and the various objectives you worked to accomplish—in your planning and preparation, your classroom environment, your classroom instruction, and your professional responsibilities related to clerical tasks, collaboration, communication, co-curricular activities, or your school’s sense of community. Consider your work as a teacher in the classroom, hallway, staffroom or meetings at school, but also your activities related to teaching at home, in your car, online or any other spaces outside of the school building.

For each of the following statements, please respond as: Yes/No

1. Over the last 24 hours, I used creativity when planning lessons or activities.
2. Over the last 24 hours, I used creativity to learn about subject matter.
3. Over the last 24 hours, I used creativity when addressing student behavior.
4. Over the last 24 hours, I used creativity to establish or maintain the culture of my classroom.
5. Over the last 24 hours, I used creativity when responding to student questions or comments in the classroom.
6. Over the last 24 hours, I used creativity to engage students in learning activities.
7. Over the last 24 hours, I used creativity when assessing student learning.
8. Over the last 24 hours, I used creativity when grading student work.
9. Over the last 24 hours, I used creativity when communicating with families.
10. Over the last 24 hours, I used creativity when interacting with colleagues
11. Over the last 24 hours, I used creativity to grow as a professional.

Consider the following definition of Creativity for Teaching: imaginative processes, products or approaches, applied to the responsibilities of teaching, that contain elements of novelty and value for the individual teacher involved.

Again, take a moment to reflect on your work as a teacher over the past 24 hours and the various objectives you worked to accomplish—in your planning and preparation, your classroom environment, your classroom instruction, and your professional responsibilities related to clerical tasks, collaboration, communication, co-curricular activities, or your school’s sense of community. Consider your work as a teacher in the classroom, hallway, staffroom or meetings at school, but also your activities related to teaching at home, in your car, online or any other spaces outside of the school building. Then identify one episode, example, or activity from your own activities over the last 24 hours that fits the given definition of Creativity for Teaching.

12. Take two minutes to provide a brief description of this example, episode or activity from the past 24 hours of your activity that involved Creativity for Teaching. When describing the single episode, example or activity, a stream
of consciousness description is acceptable.

What did you do? Why did you do it? When did this take place? Where were you? Were any other teachers involved or connected to this example in any way? If so, what was their connection?

13. In what ways does your example, episode, or activity represent *Creativity for Teaching*?

14. Consider your single episode, example or activity with respect to each of the following descriptors. Check all that apply:

<table>
<thead>
<tr>
<th>I thought of a new variation or adaptation to an existing activity or routine.</th>
</tr>
</thead>
<tbody>
<tr>
<td>I tried something that was new for me, but that I know other teachers use.</td>
</tr>
<tr>
<td>I borrowed an idea or activity from someone else and applied it to my work. In doing so, I adapted some details to fit my own specific circumstances.</td>
</tr>
<tr>
<td>I took an idea or activity I have used before and applied it in a new way or to a new circumstance.</td>
</tr>
<tr>
<td>I took existing ideas or activities and combined them uniquely to form a new way of approaching some particular problem or opportunity.</td>
</tr>
<tr>
<td>I identified a completely new problem or opportunity and worked to find appropriate action(s) to address the situation.</td>
</tr>
<tr>
<td>Novelty is not represented in this example.</td>
</tr>
<tr>
<td>There was value in applying creativity in the episode, example, or activity I described.</td>
</tr>
<tr>
<td>The creative process, product or approach I used/incorporated yielded the expected outcome or met my desired goal.</td>
</tr>
<tr>
<td>If presented an opportunity, I would do this again.</td>
</tr>
<tr>
<td>My creative process, product or approach was useful in this one particular occasion, but not generalizable beyond the specifics of this single event.</td>
</tr>
<tr>
<td>My creative process, product or approach could be valuable in other situations, but not</td>
</tr>
<tr>
<td>beyond a context tied to me, my students, or my classroom.</td>
</tr>
<tr>
<td>-------------------------------------------------------------</td>
</tr>
<tr>
<td>The creative process, product or approach I used could be applied by other professionals outside of my classroom.</td>
</tr>
</tbody>
</table>
APPENDIX C

Phase Two Interview Guide- Individual Teacher Semi-structured Interview #2
(with 8 teachers)

Thank you for the time you put into thinking about and logging your activity over the past three weeks. I’m excited to talk with you about those experiences and learn some more about your thoughts related to creativity for teaching. Just like the last time we met, our meeting today should take no more than 45 minutes, and there are no right or wrong answers to any of the questions I ask of you. As you know, your participation is voluntary, and you may choose to skip any questions if you’d rather not answer.

Our meeting today will have three sections:
1. Your examples discussed in greater detail
2. Your three-week period of time and the kinds of creativity that were and weren’t captured due to the timing of your three-week window.
3. Your thoughts about how particular ideas from creativity research connect to your creative work as a teacher.

Before we begin, it would be helpful for me to record our conversation so that I can transcribe the interview and ensure the accuracy of the data I collect today. After the interview is transcribed, I’ll provide a copy for you to review. Do I have your permission to record your interview today?

1. Over a three-week period, you logged several examples of using creativity on an everyday basis. Of the examples you provided, please select one that you’d like to talk about in a little bit more detail?
   a. Tell me a little bit more about this particular example. Was there a problem or opportunity you identified and were addressing?
   b. What prompted or led you to choose a creative response?
   c. In the definition of Creativity for Teaching that you were given, novelty is mentioned as a characteristic. How is the concept of “novelty” found in this example?
   d. In what ways was this particular example of creativity “of value” to you as a teacher?
   e. Why did you select this particular example?
   f. If I didn’t limit you to a 24-hour period of time and I asked you for a personal example of using creativity for teaching, is this an example that would come to mind? Why or why not?

2. In the yes/no questions at the beginning of the log, you noted using creativity in: (researcher selects)
   Planning lessons or activities
Learning about subject matter
Addressing student behavior
Establishing/maintaining culture of classroom
Responding to students’ comments in classroom
Assessing student learning
Grading student work
Communicating with families
Interacting with colleagues
To grow as a professional
Can you give an example of this? What does using creativity in this area look like to you?

3. In the yes/no questions at the beginning of the log, you noted that you did NOT use creativity in: (researcher selects)
   Planning lessons or activities
   Learning about subject matter
   Addressing student behavior
   Establishing/maintaining culture of classroom
   Responding to students’ comments in classroom
   Assessing student learning
   Grading student work
   Communicating with families
   Interacting with colleagues
   To grow as a professional
   a. Is this an area where you generally don’t use creativity? If not, why not?
   b. If you do use creativity in this area, but just didn’t on the days you completed log entries, could you provide an example?

4. A number of teachers gave examples of being creative when they were planning or preparing lessons and classroom activities. Is creativity for teaching ever found in spontaneous events? Can you give an example?
   a. When you depart from your plan or improvise in the classroom, do you consider that an example of creativity for teaching?
   b. What kinds of things prompt you to depart from your planned activities?

5. How did you decide whether or not to complete a log entry each day? Were there any days where you didn’t complete a log entry because you didn’t think you used creativity for teaching at all in the preceding 24-hour period?

6. How representative was the three-week period when you completed the logs? Was there anything unusual about your three-week window that influenced your creativity in supportive or restrictive ways?
a. Are there any important examples of your creativity for teaching that the timing of your three-week window was unable to capture?
b. Are there particular times of year where you use creativity for teaching to a greater or lesser extent?

7. Some people say, “I’m not creative,” but when pressed, they can think of plenty of examples where they use creativity in their work as teachers. Do you ever feel this way, and if so, why do you think this disconnect exists?

8. Where do your ideas come from when you incorporate or introduce something new or different into your practice?

9. With respect to teaching, does an activity or approach have to “work” or be successful in order for you to consider it creative?
   a. Several people have mentioned that they make ongoing adjustments to ideas or activities they borrow from others, since they’re constantly refining what they do.
   b. Does an activity have to be refined to a particular point until you think of it as creative?
   c. Would you consider the process of refining activities and making adjustments to fit the given definition of creativity for teaching? Imaginative processes, products or approaches, applied to the responsibilities of teaching, that contain elements of novelty and value for the individual teacher involved.
APPENDIX D

Phase Three Interview Guide- Semi-structured Focus Group Interviews by Subject Area

(5 subject area focus groups: ELA, Math, Sci, SS, Art/Music)

Thanks so much for taking the time to meet with me today. As you know from our earlier conversations, I’m studying something I call Creativity for Teaching. Creativity is something that’s difficult to study because the word means different things to different people. With that in mind, I want to emphasize that there are no right or wrong answers to any of the questions I ask of you. My study focuses on teachers’ own accounts of how creativity is used in the important work of teachers.

I will make every effort to keep all of the information you tell me during this focus group confidential. Your name, the name of your school, and the name of your district will not be used in any publications associated with this project. As a participant in a group interview, your help is needed to protect the privacy of other participants. Please only use first names if you need to refer to specific individuals during today’s activities. I also ask that you, as focus group participants, please keep what is shared in the focus group confidential after leaving this afternoon’s interview.

Our meeting today is scheduled to last for one hour. We will begin by talking about how creativity relates directly to your subject matter, and then we’ll talk about how creativity relates or doesn’t relate to your work teaching that subject. Finally, we’ll discuss your thoughts about what helps or hinders your ability to be creative in your work as teachers, and we’ll discuss your thoughts about how creativity for teaching relates to different perspectives from the creativity literature.

As you know, your participation is voluntary, and you may choose to skip any questions if you’d rather not answer. Before we begin, it would be helpful for me to record our conversation so that I can transcribe the interview and ensure the accuracy of the data I collect today. After the interview is transcribed, a copy will be available for you to review. Do I have your permission to record your interview today?

1. We’ll get to the teaching of your subject in a moment, but let’s begin in the discipline of [mathematics] itself. What does it look like to be creative or use creativity in [math]?

2. Is creativity important to the work of [math] teachers? Why or why not?

3. There is a great deal that goes into teaching. Take a moment to reflect on your work as a teacher and the various objectives you work to accomplish—in your
planning, in the classroom environment you establish and maintain, in your instruction that takes place inside that classroom, and in your professional responsibilities related to clerical tasks, grading, collaboration, and communication. Consider your work as a teacher in the classroom, hallway, staffroom or meetings at school, but also your activities related to teaching at home, in your car, online, or in any other spaces outside of the school building. And consider the people with whom you interact—students, colleagues, parents, administrators, friends, and people in your professional network.

a. What does it look like to be creative or use creativity in teaching?
b. Can you think of any examples of something you do in teaching [math] that doesn’t involve creativity or being creative? What about these examples suggests that creativity is not involved?

4. What limits, restricts or discourages your use of creativity for teaching?

5. What supports, encourages or enables your use of creativity for teaching?

6. Are there skills or topics related to your discipline that simultaneously enable or encourage you to be creative as a teacher?

7. Some people think of creativity as a quality embodied in products that people make, while others think of creativity as a process of identifying and solving problems. Which of these makes most sense to you in terms of how you use creativity in teaching? Why?
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