27 Creativity in Classrooms

Ronald A. Beghetto

Beyond the ordinary lies the extraordinary

Philip Jackson (1990, p. xix)

Classrooms are places where students and teachers can be creative. Indeed, creativity scholars have long recognized that classrooms represent ideal settings for expressing and developing creative thought and action (e.g., Barron, 1969; Guilford, 1950; Sternberg & Williams, 1996; Torrance, 1959; Vygotsky, 1967/2004). Many of these same scholars have also noted that classrooms pose serious challenges to creative expression. How then might we understand creativity in classrooms? One way is to become familiar with opportunities and constraints that teachers and students face in classrooms.

The purpose of this chapter is to provide an updated overview of creativity in K-12 classrooms (cf. Beghetto, 2010). The chapter opens with a brief discussion of what makes classrooms unique with respect to creative thought and action. Next, I discuss the ways that teachers and students can be creative in the context of classrooms, including the kinds of constraints and opportunities that teachers and students face in classroom settings. The chapter closes with a brief discussion of future directions for research.

**Understanding Classroom Contexts**

Although most people have first-hand experiences with classroom environments, their familiarity with classrooms can mask various socio-psychological, material, political, and historical features that influence creative expression in nuanced and surprising ways. Failing to take these features into consideration can result in misattributing research findings about creativity in classrooms to overly simplistic causes (e.g., “schools kill creativity”; “teachers do not like creative students”).

A good place to start when attempting to understand creative thought and action in K-12 classrooms is with the unique features of this setting. In what follows, I highlight a few key features of K-12 classrooms that can influence the creative expression of students and teachers. I then discuss the ways teachers and students can be creative in light of these features.
Densely Populated Designs

Classrooms contain a lot of people in a relatively small space. A typical K-12 classroom houses approximately twenty-five students and one teacher (NCES, 2013) in a room of approximately 900 square feet (Abramson, 2015).1 To put this in perspective, consider that the average size of a one-bedroom apartment in the United States is 678 square feet (DePietro, 2016). That classrooms are densely populated settings is not what makes them unique. There are numerous places where large groups of people are confined to small spaces (e.g., concerts, airplanes, churches, movie theaters). In most other densely populated settings, however, people do not spend as much time as they do in classrooms (Jackson, 1990). Students and teachers spend, on average, six hours a day, five days a week, 180 days a year for a total of nearly 13,000 hours (across twelve years of schooling) in classroom settings. Moreover, students in US classrooms are required to be in school until their mid-teens, whether they want to be or not.

Given that classrooms are small relative to the number of people occupying them, effective teachers design their classrooms to maximize efficient use of space, time, and materials (Brophy, 1983). Students typically sit in very close proximity to each other. Consequently, their desks tend to be arranged in an effort to focus students’ attention on the teacher or task at hand, maximize teacher mobility throughout the room, and limit distractions. Moreover, teachers use the walls and spaces of the classroom to display (and reinforce) various materials (Almeda et al., 2014), including classroom rules and procedures; academic content; student work; and other nonacademic decorations.

The material features of classrooms can influence students and teachers in various ways. Educational researchers, for instance, have long described how the design, decorations, and physical features of the classroom can profoundly influence teacher and student behaviors, attitudes, and motivational orientations (e.g., Ames, 1992; Gump, 1967; Martin, 2006). Understanding how the socio-material features of classrooms influence creative thought and action is an important (Fenwick, Edwards, & Sawchuk, 2015) but often neglected aspect of creativity research. Consequently, creativity scholars should find ways to account for the potential influence that the physical classroom environment has on teachers and students.

Sameness

In response to the sheer number of students being educated in K-12 schools, classrooms have historically been designed on a principle of sameness (Schank, 2004). This approach attempts to maximize efficiency through standardization (Sawyer, 2017). Consequently, students of the same age tend to be grouped in the same classroom, so they can be taught the same topic, in the same way, and at the same

1 The calculation is based on the recommended square footage allotment outlined in Abramson (2015): 150 square feet of teacher space + 30 square feet per student, which represents an increase of earlier guidelines of 140 square feet + 25 square feet per student.
time (Glăveanu & Beghetto, 2016). Students are then expected to complete the same learning assignments, using the same procedures, and arriving at the same answer.

The principle of sameness is understandable if the goal is to efficiently cover as much academic content as possible. In such an arrangement, however, students have little opportunity or need to develop and share their own unique perspectives on what is being taught. Goodlad (2004) provides a vivid empirical description of this phenomenon. In a multiyear, observational study of more than 1,000 K-12 classrooms, Goodlad and his team found “teachers out-talked the entire class of students by a ratio of about three to one” and that “barely 5% of this instructional time was designed to create students’ anticipation of needing to respond. Not even 1% required some kind of open response involving reasoning or perhaps an opinion from students” (p. 229).

Claxton (2008) described a similar pattern of results from a multiyear survey of more than 2,000 middle and secondary students in the United Kingdom. Specifically, students were asked to report on the three things they most often did during classroom instruction. The most frequently reported activities were “copying from the board or book,” “listening to the teacher talking for a long time,” and “taking notes while my teacher talks” (p. 22).

The principle of sameness not only shapes the patterns of behavior observed within classrooms; it also shapes similarities observed between classrooms. Sirotnick (1983), for instance, has asserted that the stark similarities in instructional and learning behaviors observed within and between classrooms “appears to be one of the most consistent and persistent phenomena known in the social and behavioral sciences” (1983, pp. 16–17). There are, of course, alternatives to a standardized approach (Jaros & Deakin-Crick, 2007; Tomlinson, 2014) and not all classrooms operate in this way (Dodd-Nufrio, 2011). Still, the familiar pattern of classroom behavior has not changed substantively in more than a century of schooling (Cuban, 2009; Sirotnick, 1983) as it tends to get passed on from one generation of teachers to the next (Beghetto, 2010; Calderhead & Robson, 1991; Lortie, 1975). Consequently, it is important for creativity researchers to take into consideration the historical and practical aspects of a tendency toward sameness when attempting to understand the constraints placed on creativity in K-12 classrooms.

**Predetermined Roles and Goals**

Given that classrooms are planned environments, the roles assumed by teachers and students are well defined and most of the activities they engage in are predetermined (Jackson, 1990). Although there are instances where students are asked to take on some of the responsibilities of the teacher (e.g., helping with certain required tasks, helping to support the learning of peers), teachers and student roles tend to be well defined, predetermined, and fixed. Moreover, students and teachers take on sub-identities within these roles (e.g., “good student,” “trouble-maker,” “mean teacher”). These identities tend to “thicken” and become more stable over time by virtue of how individuals are socially perceived and positioned during the routine activities of the classroom (McDermott, 2001; Wortham, 2006).
In addition to teacher and student roles, teaching and learning goals in the classroom also tend to be predetermined and mapped onto the horizontal goals of other classrooms of the same grade level and the vertical goals of previous and subsequent grade levels in a particular school district (Burns, 2000). These goals are further nested in broader educational learning goals, which are shaped by state and national curricular standards. Although curricular standards are predetermined, teachers typically have some say in how specific content and skills will be taught within their classroom.

The flexibility of being able to determine how to teach content tends to be constrained by planning expectations that require teachers to specify yearly, monthly, weekly, and daily instructional sequences. Consequently, teachers often are encouraged in “backward planning” to not only specify student learning goals but also specify in advance the steps that students will take to attain those goals and how those steps will be assessed along the way (Wiggins & McTighe, 1998). Such planning helps reduce uncertainty but it also limits opportunities for pursuing emergent possibilities and the ability to take new directions in the curriculum (Aoki, 2004; Beghetto, 2013). Teachers are also expected to establish and enforce behavioral rules and expectations in an effort to reduce disruptions and help students attain predetermined learning goals (Doyle, 2006; Jackson, 1990). Many of these expectations are unique to classrooms and would otherwise seem peculiar in other social settings (e.g., “do not look at the work of the person sitting next to you”; “raise your hand if you want to speak”; “ask before you use the restroom”; “wait until the entire group is ready or a bell rings to move on to your next assigned task”).

Understanding the predetermined roles and goals of classrooms can help provide important contextual information for creativity researchers interested in understanding how and why different patterns of creative expression are welcome in the classroom. This understanding can also help in identifying what aspects of classroom goals and roles can (and should) be modified and those that cannot.

**Socio-dynamic**

Classrooms are dynamic, social environments. Even though they have somewhat stable features across time, there is a level of simultaneity, multidimensionality, and unpredictability that occurs in classrooms from one moment to the next (Doyle, 2006). Indeed, even the most tightly planned classroom activities tend to be punctuated by unexpected ruptures from students, teachers, and even the physical environment (Aoki, 2004; Beghetto, 2016a). This is to be expected given the numerous potential interactions that can occur in any given moment in a classroom. Indeed, researchers who have studied observational counts of classroom interactions have, for instance, estimated that teachers have somewhere between 500 and 1,000 interpersonal exchanges with individual students on any given day (Doyle, 1996; Gump, 1967; Jackson, 1990).

2 Consider, for instance, that in a typical classroom of twenty-five students and one teacher there are 325 possible combinations of one-to-one interactions.
In addition to multiple and frequent interpersonal interactions, teachers simultaneously engaged in different activities, such as keeping track of time, monitoring whether students need assistance, and handling various interruptions (Brophy, 1983; Doyle, 2006; Jackson, 1990). Students are also variously engaged in classroom tasks. While some may be trying to follow the prescribed lesson or adhere to behavioral expectations, others are engaged in "unsanctioned" and disruptive behaviors, such as passing a note, playing with a toy brought from home, or daydreaming out the window (Glaveanu & Beghetto, 2016; Matsusov, 2009).

Taking into consideration the various socio-dynamic features of the classroom can provide yet another interpretive lens for creativity researchers interested in understanding creativity in the classroom. Rather than dismissing these features and materials of classrooms as statistical noise or unexplained variance, researchers need to develop ways to include these aspects of the classroom in their studies (Beghetto, 2016a). Doing so can help shed new light on the creative thoughts, beliefs, and actions of teachers and students in classrooms.

Overtly Evaluative

Students and teachers are continually evaluated in the classroom in formal and informal ways. Many of these evaluations occur publicly and informally (Jackson, 1990). Even classroom talk has an overtly evaluative component to it. Consider, for instance, the ubiquitous Initiate, Respond, Evaluate (IRE) pattern of K-12 classroom discourse described by Mehan (1979). More specifically, the IRE pattern of classroom talk involves teachers initiating discussions by asking known-answer questions, students attempting to provide an expected response, and teachers immediately and publicly evaluating whether those responses fit what is expected (Beghetto, 2013). This pattern of teacher talk is so common that it has even been observed in young children who are playing school (Cazden, 2001).

In addition to classroom talk, teachers evaluate students in numerous other formal and informal ways, including everything from monitoring student behavior to homework assignments, teacher-designed exams, and externally mandated tests. Students' peers also play an evaluative role in the classroom. In fact, teachers sometimes rely on students to engage in "peer monitoring" in an effort to impose sanctions on the behaviors of peers who deviate from expected achievement standards and behavioral norms (Eder & Felmlee, 1984; Wentzel & Watkins, 2011).

Students are not the only ones being monitored and evaluated in the classroom. Teachers also find themselves under the evaluative eye of their students, colleagues, administrators, and external stakeholders. Although it is true that teachers have been mandated by recent accountability mandates, teachers "have always been under the yoke of surveillance" (Smaller, 2015, p. 151). This includes the potentially stifling self-surveillance that teachers impose on themselves as a result of working in such an overtly evaluative context (Ingersoll, 2003).

Understanding the evaluative nature of classrooms can help creativity researchers better understand the kinds of creative risks teachers and students are willing (and not willing) to take in classrooms. Indeed, previous research has demonstrated that
when people expect evaluation, it can stifle their creative expression (e.g., Amabile, 1996; Hennessey, 2017; see also Hennessey, Chapter 18, this volume). Additional work is needed to further understand this feature of classrooms and how teachers and students might better navigate the potentially stifling effects of such an overtly evaluative context. Taken together, these features of classrooms make for a unique and complex environment. In the sections that follow, I highlight how students and teachers can be creative in classrooms in light of these features.

**Different Ways of Being Creative in the Classroom**

There are various possibilities for how teachers and students can express their creativity in classrooms. As discussed, the unique features of classrooms place nontrivial constraints on those possibilities. Students and teachers can, of course, creatively resist established roles and expectations (and some do). The perceived and actual consequences of deviating from those expectations, however, tend to constrain how teachers and students are willing to express their creativity in classrooms.

As a result, teachers and students have but a “slender autonomy” in the classroom (Cuban, 2009; Smaller, 2015) and they are thereby limited in the ways they can express their creative thoughts and actions. Fortunately, creativity can still thrive within constraints of the classroom (Beghetto, 2016b). In what follows, I provide an overview of how teachers and students can express their creativity in teaching and learning, including the constraints and opportunities that come along with engaging in these forms of creative expression.

**Creativity in Teaching**

The two major activities that occur in any K-12 classroom are teaching and learning. Within the act of teaching, teachers have an opportunity to express their creativity and support the creative potential of their students. In order for this to happen, however, at least three prerequisites must be met. The first is teachers need to believe that they can assume the role of a creative teacher in context of their classroom (Paek & Sumners, 2017). Next, they need to be willing to assume that role (Hong, Hartzell, & Greene, 2009; Gralewski & Karwowski, 2016; Sternberg, 2015) and, finally, they need to have an understanding of what assuming that role entails (Beghetto, 2017; Schacter, Thum, & Zifkin, 2006; Davies et al., 2012; Sternberg, 2016).

There are several factors that can conspire against teachers meeting the first two prerequisites, including whether teachers believe they themselves can be creative and whether they think nurturing students’ creative potential is even possible (Paek & Sumners, 2017). Beyond these fundamental beliefs about the nature of creativity, teachers also need to understand how nurturing student creativity and supporting academic learning can be compatible goals (Beghetto, 2013; Beghetto, Kaufman, & Baer, 2014) and they need to feel supported in pursuing both goals. One way that teacher accountability mechanisms influence teachers is by creating a situation where teachers anticipate the possibility of being sanctioned (Ingersoll, 2003).
As a result, teachers may convince themselves that it is better to avoid engaging in otherwise acceptable instructional behaviors that are not clearly endorsed by their administration or external stakeholders (Ingersoll, 2003).

These accountability pressures are not limited to classrooms in the United States. Mullen (2017), for instance, reports that teachers in China felt pressure “from parents who think that children should only be learning material for exams” (p. 113). Pressure also comes from colleagues and administration. Consequently, if teachers believe that engaging in creative teaching might result in an actual or externally perceived deviation away from their primary goal of supporting students’ academic learning, then they likely would choose against it.

If teachers are able to get beyond these initial hurdles, then the third prerequisite involves developing the knowledge necessary to engage in creative teaching. A good place to start is to recognize that there are different forms of creative teaching, each of which has a different pedagogical aim and draws on a different pedagogical knowledge base (Beghetto, 2017; Jeffrey & Craft, 2004; Shulman, 1987; Niu & Zhou, 2017; Sternberg, 2005; Sternberg, Jarvin, & Grigorenko, 2009). In the context of K-12 classrooms, there are at least three forms of creative teaching: teaching about creativity; teaching for creativity; and teaching with creativity (Beghetto, 2017).

**Teaching about creativity.** Teaching about creativity refers to helping students learn about creativity so that they recognize the value of it in learning and life. This includes teaching students what creativity is and is not (Kaufman, 2016; Plucker, Beghetto, & Dow, 2004; Runco & Jaeger, 2012), different manifestations of creativity (Kaufman & Beghetto, 2009; Rhodes, 1961; Simonton, 2016), and how creativity develops within and across domains (Kaufman, Baer, & Glăveanu, 2017).

**Constraints placed on teaching about creativity.** There is more to teaching about creativity in K-12 classrooms than simply knowing something about creativity and having a desire to teach about it. Knowledge of the field of creativity studies is necessary but not sufficient. Given that, the primary aim of K-12 instruction is to promote students’ academic learning, most K-12 teachers do not have the curricular luxury of extra time or space to make creativity a “standalone” topic.

Finding a way to combine content about creativity within the regular academic curriculum is one of the biggest constraints teachers face if they are interested in teaching about creativity (Lassig, 2012). Unless they can navigate this constraint then they likely will view creativity-related content as an extracurricular add-on (Aljughaiman, & Mower-Reynolds, 2005) and thereby decide not to teach about creativity (even if they are interested in doing so).

**Opportunities to teach about creativity.** One way of including opportunities for creative expression in the curriculum is to move away from an either/or mindset and toward a both/and approach (Beghetto, 2013). A both/and approach helps teachers move away from the concern that they must abandon academic subject matter to teach about creativity and helps them move toward considering how they might infuse creativity into their existing academic curriculum (Baer & Garrett, 2017; Beghetto, 2018; Beghetto et al., 2014; Sternberg, 2016).
Teaching about creativity requires that teachers know about the nature of creativity (Kaufman, 2016), know how to represent it in the subject areas they are teaching, and know how to make this content accessible to their students. Creativity scholars have pointed to several ways that teachers might accomplish this goal. One way to do this is to find and incorporate models of creative expression in the subject areas they are teaching.

Root-Bernstein and Root-Bernstein (2017), for instance, explain that students can and should be taught more than the “what” of academic subject areas (i.e., content that is stripped of all people, problems, processes, and context that resulted in creative discoveries). Specifically, they describe the importance of also teaching the why, who, how, when, and where of creative work. Doing so can simultaneously help students learn academic subject matter and the creative processes that have resulted in key discoveries in that subject area.

Along similar lines, teachers can invite professionals (e.g., writers, historians, scientists, engineers, architects) to visit the classroom (live or virtually) and explain how they put academic content to creative use in their professional work (Beghetto, 2013). This can be complimented by incorporating biographies of creators, relevant news stories, and even “biographies of ideas” (Clapp, 2016) that illustrate creative expression within and across subject areas. Incorporating biographies of ideas into the curriculum is a particularly promising approach as it can be used to trace the development of students’ academic and creative ideas as they work together in solving problems (Clapp, 2016).

Teaching about creativity is an emerging area of research and development in the field of creativity studies. Although there are promising examples of work being done in this area, much more work is needed in the K-12 classroom to understand how teaching about creativity might compliment not only students’ understanding of academic subject matter learning but also their understanding of creativity within those subject areas.

**Teaching for creativity.** Teaching for creativity refers to efforts aimed at developing students’ creative potential into creative achievement. Although teaching for creativity sometimes refers to creativity training or enhancement efforts (e.g., Scott, Leritz, & Mumford, 2004), in the K-12 classroom, teaching for creativity refers to nurturing students’ creative potential in the context of academic subject areas (Beghetto, 2017; Niu & Zhou, 2017). This is not to say that strategies and techniques used in creativity training programs have no relevance to classroom teachers, but rather that those techniques need to be modified so that they can be meaningfully used in the context of classroom instruction. As Baer and Garrett (2017) note, “it is hard to see how listing 100 interesting and unusual ways to use egg cartons will help Johnny improve his scores on state-mandated achievement tests” (p. 51).

**Constraints placed on teaching for creativity.** Teaching for creativity is constrained by several features of the classroom. Given that classrooms are densely populated settings that tend to require students to engage in the same (or very similar tasks), it is difficult for teachers to provide time and support to the unique creative
interests of students that might help them develop their creative potential into creative achievement (Beghetto, 2016c; Beghetto & Kaufman 2007; Runco, 1996).

Teachers therefore need to find ways to work within these constraints to support students’ creative expression in whole group formats, such as class discussions as well as small group activities and individual work. Also, given the predetermined nature of what is taught and assessed in K-12 classrooms, teachers typically do not have the time or flexibility to establish teaching for creativity as a separate curricular goal in their everyday instructional efforts (Lassig, 2012). If they are interested in promoting student creativity, then the most direct path of doing so is to infuse it into their existing curriculum (Beghetto, 2013; Craft, 2010; Fairweather & Cramond, 2010; Renzulli, 2017).

When teachers design lessons that provide students with opportunities to express their creativity, they are introducing uncertainty into an otherwise planned and highly structured instructional setting (Beghetto, 2018). Indeed, the lesson can move in unexpected and surprising directions. Although this is part of what is required when teaching for creativity, teachers need to be ready to navigate uncertainties to ensure that they are providing a “just in time” blend of support and flexibility (Beghetto & Kaufman, 2011; Sawyer, 2004). Otherwise they risk drifting too far afield from their intended instructional goals, which can cause student confusion and teacher frustration.

Teaching for creativity in K-12 classrooms also requires that teachers have deep subject matter knowledge, coupled with knowledge of how to support student creativity in the context of that academic subject matter. Teaching for creativity in mathematics would, for instance, require that teachers have a solid foundation in mathematics and know how to support creative expression in the context of mathematics instruction (Niu & Zhou, 2017).

**Opportunities to teach for creativity.** Creativity researchers have developed various ways to help teachers support creative potential and academic learning (Baer & Garrett, 2017; Renzulli, 2017). Moreover, given the overt focus on assessment in classrooms, creativity researchers have also been developing approaches for assessing creativity in academic domains (e.g., Grigorenko et al., 2008; Lubart & Besançon, 2016).

As with teaching about creativity, research on teaching for creativity is a promising and emerging area of inquiry. Two long-standing challenges for creativity researchers attempting to study creative teaching practices, however, are finding teachers who use creative teaching techniques (Schacter, et al., 2006; Torrance & Safer, 1986) and using methodologies that are robust enough to simultaneously explore the quantitative and qualitative features of the classroom. Studies that use blended methodologies and more purposive sampling techniques can be very helpful in examining and documenting instructional practices conducive to creativity.

One example is a recent study (Gajda, Beghetto, & Karwowski, 2017) that explored different patterns of teacher and student behaviors in classrooms classified as having positive, negative, and null relationships between creativity and academic learning. By classifying classrooms first and then using a blended
analytic approach, we were able to examine more micro-level classroom behaviors and interactions, including whether and how teachers in different classrooms taught in ways that were more or less supportive of the development of students’ creative potential.

Finally, teaching for creativity also involves knowing how to establish a classroom environment conducive to creative expression. Creativity researchers have identified several aspects of creativity-supportive learning environments (e.g., Beghetto, 2013; Beghetto & Kaufman, 2014; Davies et al., 2012; Hennessey, 2017; Schacter et al., 2006), including

- **Planning for and expecting creative expression from students.** Expect students to demonstrate their academic knowledge and apply their knowledge in creative ways (e.g., coming up with multiple solutions to a problem, developing their own problems, developing their own ways of solving a problem).

- **Providing students with autonomy support.** Students can benefit from having opportunities to exercise their autonomy when engaged in learning tasks (e.g., have some level of choice in how or what they work on). Importantly, this needs to occur in a highly structured learning environment (e.g., clear expectations). Moreover, in cases where teachers need to take a more directive role, students should still be provided with an explanatory rationale for such directives (Reeve, 2009).

- **Provide students with opportunities to view topics from different perspectives and possibilities.** Students can benefit from engaging in possibility thinking (Craft, 2010), which includes imagining how to move from the way things currently are to how they could or should be. This also includes being open to different perspectives (Glăveanu & Beghetto, 2016) as a means for developing new possibilities for how ideas, topics, and situations can be viewed.

- **Providing students with opportunities to view creativity and academic learning as means to other ends.** Students can benefit from learning experiences that require them to put their creativity and academic knowledge to work in solving complex challenges and ill-defined problems facing them, their communities, and beyond. (Beghetto, 2018).

**Teaching with creativity.** Teaching with creativity refers to approaching the teaching of academic subject matter in a creative fashion. Some creativity scholars have asserted that teaching with creativity is inextricably linked with teaching for creativity (Jeffrey & Craft, 2004). This is because modeling creative thought and action can motivate others to engage in creative behaviors (Lilly & Bramwell-Rejskind, 2004). In this way, teaching creatively is a form of socio-behavioral modeling that can encourage the expression of similar behaviors in students (Bandura, 1997).

**Constraints: Teaching with creativity.** Similar to the constraints placed on teaching about and for creativity, teaching with creativity is constrained by the unique features of K-12 classroom settings. Just like other forms of creative teaching, teaching creatively is not about using gimmicks (e.g., dressing up in silly costumes)
or tricks (e.g., jumping from desktop to desktop). Rather, creative teaching requires teachers to know how to teach specific subject matter, to a particular population of students, in a creative fashion. Teaching creatively therefore requires that teachers strike a balance between demonstrating characteristics of creative behavior (e.g., openness, flexibility, possibility thinking, and sensible risk-taking) and ensuring that they are meeting the academic demands placed on them and their students (Beghetto, 2017).

Although creative teaching may be intrinsically valuable, it also comes with some costs. Teachers seem to be aware of several of these costs. Mullen (2017), for instance, found that teachers she interviewed believed that teaching with creativity takes more time and energy than teaching in a more traditional way. Consequently, creative teaching behaviors may be difficult to sustain over the course of an entire lesson (Gajda et al., 2017). Moreover, given that teachers are not required to teach creatively, and because there is limited (albeit promising) evidence of a positive relationship between creative teaching and academic learning (e.g., Gajda, Karwowski, & Beghetto, 2016; Shacter et al., 2006), teachers may feel that it is not worth the investment of time and energy to teach creatively. Indeed, as Baer and Garrett (2017) assert, “when accountability push comes to testing shove” teachers may quickly abandon more creative approaches to teaching and instead use that time to “drill math facts or practice reading comprehension strategies” (p. 51).

**Opportunities to teach with creativity.** Even with these constraints, teachers do have the opportunity to teach with creativity and it is likely the case that most teachers do, on occasion, teach creatively. Just like any form of creative expression, there is a time and a place for creative instruction (Kaufman & Beghetto, 2013). Teachers can therefore take some solace in the fact that they need not always be creative in their approach to teaching.

Having the willingness to explore unexpected turns and plan for creative openings in academic lessons can yield creative outcomes for both teachers and students (Aoki, 2004; Beghetto, 2013, 2018). Doing so requires knowledge of the subject matter, knowing how to draw out and explore ideas, trusting oneself and one’s students to take learning in unexpected and meaningful directions, and knowing when to return to the planned lesson or park unexpected ideas for later exploration.

**Creativity in Learning**

Having discussed how teachers can express their creativity in the act of teaching, I now turn to how students can express their creativity in the act of learning. Creativity researchers have long been interested in the relationship between creativity and classroom learning. Not surprisingly, they have conceptualized this relationship in various ways (Beghetto, 2016c).

One way researchers have examined this relationship is to explore whether there is a link between creativity and academic learning. This relationship can be conceptualized as viewing creative thought as part of the process of learning (Guilford, 1950) and thereby a precursor to academic achievement (creativity → academic achievement). Researchers who have examined correlational links between
creativity and academic achievement have reported variable results, although a recent meta-analysis (Gajda et al., 2016) indicated that creativity and academic achievement have a positive, albeit modest relationship ($r = 0.22$).

Another way the relationship has been conceptualized is to assert that academic learning influences creativity (learning → creativity). This view is based on the widely held assertion among creativity researchers that domain knowledge is necessary for creative expression (Ericsson, 1996). Researchers have also pointed out that the association does not seem to follow a simple linear pattern. Simonton (2016), for instance, has demonstrated a curvilinear (inverted U-shape) function, suggesting that formal schooling will eventually yield diminishing returns when it comes to creative achievement. One reason why too much formal education can suppress creativity is that it can lead to overly rigid thinking (Plucker & Beghetto, 2004).

Perhaps the most relevant way of conceptualizing this relationship in K-12 classrooms is to view creativity and learning as interdependent (creativity ↔ learning). Indeed, the constructs of creativity and learning share some core features, including that both involve change and both can be conceptualized as a process or product (e.g., Gajda et al., 2016; Alexandar, Schallert, & Reynolds, 2009). It is therefore not surprising that some of the earliest creativity scholars have viewed creativity and learning as mutually dependent and, in some cases, almost indistinguishable phenomena. Guilford (1967), for instance, asserted "creativity and learning are much the same phenomenon" (p. 307).

In recent years, the interdependent view of creativity and learning has been represented in the concept creative learning. Several creativity scholars have been working on clarifying what this concept means in the context of classroom settings (e.g., Beghetto, 2016c; Littleton & Mercer, 2013; Sefton-Green et al., 2011).

One way to think about how students can be creative in the context of classroom learning is to view creative expression and learning as simultaneously occurring at the individual and sociocultural level (Beghetto, 2016c). More specifically, as students engage with and attempt to understand new academic concepts, ideas, skills, and experiences they engage in a creative process of combining new stimuli with their existing knowledge structures. If students are able to establish a new and personally meaningful understanding as a result of this combinatorial work, then they have by definition engaged in a creative act, albeit at the subjective or mini-c level (Beghetto & Kaufman, 2007; Runco, 1999; Stein, 1953).

In this way, the personally meaningful learning of academic content involves a subjective, creative act. Given that there is a sociocultural (Vygotsky, 1967/2004) and social-evaluative component to learning (and creativity), it is not sufficient to leave academic learning up to the subjective judgment of students. Indeed, students need the opportunity to test out, receive feedback on, refine, and correct their understanding with the assistance of their teacher and peers. By doing so, they have a chance to not only validate their understanding of academic subject matter but also make a creative contribution to the learning of their peers and their teacher. This can happen when a student's unique
perspective provides a novel and academically appropriate representation to peers and their teacher (Beghetto, 2016c).

**Constraints on creative learning.** The key constraint placed on students’ creative expression in classrooms is that it must be deemed acceptable with respect to classroom expectations and academic task constraints. One example is what creativity researchers have described as “brief case” or “subordinate” types of creative expression as opposed to “wild bohemian” or “rebellious” types of creative expression (Dawson, 2005; Karwowski, 2016). The key distinguishing feature between these types of creative expression, at least in the eyes of teachers, tends to be whether students are still able to comply with classroom expectations.

Such expectations are, of course, not uniform across classrooms or even within the same classroom. Given the socio-dynamic nature of classrooms, the parameters of “appropriateness” are not fixed, but rather change based on the particular task, situation, teacher, and group of students (Gajda et al., 2016). Even a teacher who is otherwise open to creativity may dismiss an unexpected (and potentially creative) idea if there is limited time in the lesson, the teacher feels pressured to cover certain topics, or if the idea is perceived by the teacher as disrupting the planned trajectory of a lesson (Beghetto, 2013; Doyle, 2006; Kennedy, 2005).

Consequently, students who are willing to provide creative responses need to learn how and when to balance originality with meeting task constraints in the particular classroom setting. Being able to strike this balance is, by most definitions, what creativity is all about (Beghetto, 2016c; Plucker et al., 2004; Runco & Jaeger, 2012). Students’ ability to know how and when to be creative is what has been called creative metacognition (Kaufman & Beghetto, 2013).

Creative metacognition represents one of several interrelated forms of creative self-beliefs that researchers have posited as important to helping determine whether people will be willing to share, receive feedback on, and develop their creative potential into creative achievements (see Chapter 19 of this book). Developing healthy creative self-beliefs can thereby be thought of as an important goal for students.

Even if students are able to know when and how to express their creativity, they still may be reluctant to do so given the various socio-dynamic constraints of the classroom. Indeed, as Bandura (1997) has long noted, the link between beliefs and behaviors is reciprocally influenced by a dynamic constellation of environmental, personal, and behavioral factors. One example comes in the form of subtle (and not so subtle) motivational messages of the classroom.

Consider, for instance, a teacher who provides opportunities for students to creatively express themselves on a challenging task. In an effort to generate excitement and task completion, the teacher promises an appealing prize or reward for students who are the first to complete it. Even students who are capable of creative expression may become so focused on winning the prize that they are not willing to take the risks necessary to try doing something new and potentially creative. As Hennessey (2017) has explained, “hundreds of published investigations reveal
that the promise of a reward made contingent on task engagement often serves to undermine intrinsic task motivation . . . including creativity” (p. 235).

**Opportunities for creative learning.** Within the context of K-12 classrooms, students have numerous opportunities for creative expression. In recent years, there have been various options designed specifically to provide students and teachers with opportunities for creative learning, including Makerspaces, design challenges, real-world problem-solving projects, and other activities and tasks that provide semi-structured and ill-defined problems (Beghetto, 2018; Hatcheon & Dickerson, 2017; Renzulli, 2017; Saarin et al., 2017). Such opportunities can serve as vehicles for students to blend academic learning with creative expression within the context of the regularly scheduled school day.

Aside from these options, there are also opportunities for creative expression in more conventional instructional activities and assignments. Even a standard mathematical word problem, for instance, can be used as a vehicle for creative expression by requiring students to solve the problem in as many unique and mathematically accurate ways as they can (see Niu & Zhou, 2017). Along similar lines, curricular content standards that establish guidelines for encouraging students to represent their knowledge in multiple ways or engage in open-ended problem-solving provide opportunities for students to simultaneously develop their creative potential while still adhering to subject matter constraints.

Moreover, openings for creative expression appear even in highly planned and structured lessons (Aoki, 2004). Such openings can also serve as opportunities for students and teachers to engage in creative learning (Beghetto, 2016c). Capitalizing on these opportunities requires that students have support from their teachers so that they can learn how to express their own unique perspectives while still adhering to the requirements and expectations of the task at hand. Without systematic guidance along these lines, students may find their ideas dismissed, become discouraged, and possibly abandon their creative aspirations (Beghetto & Dilley, 2016).

**Concluding Thoughts**

Classrooms represent a promising site for creative expression and creativity research. Realizing the promise requires an understanding of the unique features of K-12 classrooms. With respect to creative expression, students need to have opportunities to develop their creative potential and have continual support and feedback to learn how to strike a better balance between meeting task constraints and novel expression in context of the various academic subject areas.

Teachers also need to have opportunities to develop their understanding of the different forms, aims, and knowledge bases necessary for creative teaching. Simply wanting to support creative expression in the classroom is not sufficient for knowing how to teach with, about, and for creativity. Consequently, teachers interested in supporting their students’ (and their own) creative expression will need to become familiar with the field of creativity studies, learn what aspects of the insights from the
field are relevant to their professional practice, and learn how to blend their knowledge of creativity with their knowledge of how to teach students within the various constraints of the K-12 classroom.

Classrooms also provide a very promising and challenging site for conducting research on creative thought and action. Although much work has already been done, there is much left to do. Without the efforts of current and future generations of creativity researchers who are willing to develop a deep understanding of the unique features of K-12 classrooms, teachers and students will have limited actionable information to draw on from the creativity studies literature.

Researchers need to go beyond studying classroom creativity at a distance and, instead, be willing to study creativity “in the wild” of the classroom. One way of doing so is for researchers to partner with educators in order to design studies that allow them to take into account the dynamic and nuanced features of creativity in K-12 classrooms. This includes developing more dynamic and blended methodologies and finding ways to make the results of their work more accessible to K-12 teachers and students.

References


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