The Alberta Journal of Educational Research *Vol. 55, No. 2, Summer 2009, 199-211*

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Enhancing Creativity with M.U.S.I.C.

Over the past 20 years, the value placed on creativity has dramatically increased, and it has become centrally relevant to education on a global scale. This article explores the many elements involved in the creative process in the hope of providing educators with a working knowledge of how creativity might be enhanced. Recommendations are drawn from the existing literature, and a rationale for a product-oriented definition is provided. The elements that influence creativity are organized into five categories: motivation, uncommon commitment, skill, imagination, and courage: as represented by the acronym M.U.S.I.C. Practical strategies for the classroom are included.

Au cours des 20 dernières années, la valeur attribuée à la créativité a augmenté de façon dramatique pour devenir un élément central de l'éducation à l'échelle planétaire. Cet article étudie les multiples éléments impliqués dans la démarche créative dans l'espoir de fournir aux enseignants des connaissances pratiques pour promouvoir la créativité. Sont présentées des recommandations puisées dans la littérature actuelle et une justification pour une définition orientée vers le produit. Les éléments qui influencent la créativité sont répartis dans cinq catégories : motivation, engagement hors pair, habileté, imagination et courage (ces mots, en anglais, forment l'acronyme M.U.S.I.C.). L'article inclut des stratégies pratiques pour la salle de classe.

Over the past two decades, creativity has become prominent in education (Bailin, 1994; Craft, 2005; Robinson, 2001). Its value has long been emphasized (Amabile, 1983; Getzels & Jackson, 1962; Guilford, 1950; Rogers, 1976; Sternberg, 1988; Torrance, 1962, 1970), and important connections have been made between creativity and learning (Torrance, 1970), the application of knowledge (Rothenberg & Hausman, 1976; Sternberg & Lubart, 1995) and even mental health (Csikszentmihalyi, 1996; Eckstein, 1972; Maslow, 1972; Rogers). But over the past 20 years, the value placed on creativity has dramatically increased, and it has become centrally relevant to education on a global scale (Craft). Robinson (2006) has even suggested that creativity is as important as literacy and should be treated with the same status. Politicians, researchers, educators, and policymakers describe it as a significant part of the education process (Craft).

With such a significant profile, it is not surprising to see educators interested in exploring and enhancing creativity (Amabile, 1983; Bailin, 1994; Sternberg & Lubart, 1995; Sternberg & Williams, 1996; Torrance, 1970; 1995) and even offering creativity workshops in the regular classroom (Mildrum, 2000). It is also encouraging that many researchers promote the idea that creative ability is not carved in stone or set at birth (Amabile, 1989; Rogers, 1976; Sternberg & Lubart; Torrance, 1962; 1995). Many propose that creativity can indeed be enhanced (Amabile, 1983; Torrance, 1995; Csikszentmihalyi,

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1996; Sternberg & Lubart). Although there is no clear consensus as to how this can be accomplished (Feldhusen & Eng Goh, 1995; Nickerson, 1999), much research has been done, and many suggestions and recommendations have been made (Amabile, 1982; Bailin; Craft, 2005; Csikszentmihalyi; Dacey & Lennon, 1998; Rogers; Sternberg, 1988; Sternberg & Lubart; Torrance). The purpose of this article is to synthesize and present these ideas with the aim of helping educators to gain an understanding and a working knowledge of the many elements involved in the creative process. A model for organizing the important principles is offered, and practical strategies are suggested.

In exploring how creativity might be enhanced, it is important first to define this construct clearly, for as Bailin (1994) emphasized, "if we are not clear about what is meant by creativity, we may end up sacrificing creativity precisely in the process of trying to foster it" (p. 1).

Understanding and Defining Creativity

The term *creativity* has entered our language on a regular basis. We hear it in classrooms, staffrooms, and on professional development days. We use it in everyday conversations. It is not uncommon to hear statements such as "As you work on your projects, feel free to add a little creativity." "Wasn't that a creative presentation?" "This is a tough problem; let's see if we can tackle it creatively." "She is the most creative student I've ever had."

Unfortunately, *creativity* also seems to be one of those words that although commonly used is not easy to define. We may use the term regularly, but can struggle if asked to put into words specifically to what we are referring. In fact teachers often have difficulty articulating what they mean by creativity (Craft, 2005). In a sense this is not surprising. Csikszentmihalyi (1996) emphasized that the term *creativity* as commonly used attempts to cover too much ground, and as a result a great deal of confusion results. Indeed creativity has been referred to as a notoriously elusive concept (Smith, 1998), a complex, long-term developmental process (Feldhusen & Eng Goh, 1995), sure to leave researchers beset with feelings of awe and mystery (Rothenberg & Hausman, 1976) and as a construct that tends to defy precise definition (Torrance, 1988). In education, the concept of creativity is often used as a metaphor to signify exploration, open-mindedness, and the celebration of originality and difference (Cullingford, 2007).

In articulating a clear working definition—and understanding why this has been a challenge in the field—it is helpful to know that creativity has been scientifically researched from four perspectives over the past 50 years. Consideration has been given to the creative *process*, as well as the creative *person*, the creative *place* or environment, and the creative *product* (Tardiff & Sternberg, 1988).

The *process* of creativity has long been explored in the psychometric tradition. From this perspective, creativity is viewed as a mental trait that can be quantified by appropriate measurement instruments (Mayer, 1999), primarily *divergent thinking* batteries (Plucker & Renzulli, 1999), which require individuals to produce several responses to prompts such as "Name all the things you can think of that are white and edible." "Write as many sentences as you can using the words *desert food* and army" (Guilford, 1975, p. 42). But some

researchers (Amabile, 1996; Sternberg & Lubart, 1995) have claimed that these batteries measure trivial aspects of the creative process and are rather limited.

The creative *person* has also received a great deal of attention, and it has long been emphasized that personality factors are important in creative achievement (Barron, 1969; Dacey & Lennon, 1998; Sternberg & Lubart, 1995; Torrance, 1962; 1979). Some of the questions explored from this perspective include: What is the creative person like? Are there particular characteristics commonly found in those who create? Can we distinguish creative individuals by virtue of their personalities? The thrust has been to identify the characteristics commonly found in the creative individual.

Creativity has also been explored from the perspective of the creative *environment* or place. As well as referring to physical spaces such as the classroom or workplace, the term *environment* can also refer to less tangible features such as the degree of perceived support and personal interactions as well as political and social climate and cultural values. Because of the importance of environmental factors such as domain, field, and culture, Csikszentmihalyi (1996) emphasized the importance of also asking *where* is creativity in our efforts to understand this construct.

The fourth area commonly researched is the creative *product*. From this perspective, focus is placed on the actual outcomes rather than the process involved or the characteristics of the person doing the creating. Creativity requires products.

The construct of creativity can be approached, and even defined, from any of these perspectives. Torrance (1988) chose a *process* definition; Csikszentmihalyi (1996) has done much research on creative *persons*. In this article, however, I present the case for a *product*-oriented definition.

Bailin (1994) clarified that the focus on products was once neglected because it was believed that their creative value could not be reliably assessed. As such, creativity research focused on the process of creativity and the characteristics of the creative person regardless of whether creative products ever resulted. But it has been shown that creative products can be reliably assessed (Amabile, 1983; Hennessey & Amabile, 1988; Runco, 1989; Sternberg & Lubart, 1995), and this has often been achieved through the use of expert and non-expert judges. At times the judges are provided with guidance in rating products, although as with Amabile's (1982, 1983) consensual assessment approach, there are times when researchers ask judges to rate the creativity of products with little guidance. Amabile (1982) suggested that although "creativity in a product may be difficult to characterize in terms of specific features, it is something that people can recognize when they see it" (p. 1001). In other words, even when people cannot articulate precisely what aspects or characteristics of the product contribute to its creativity, they can recognize that the product is creative.

Most common definitions of creativity in the western world now tend to center around the product (Mayer, 1999), and some researchers (Bailin, 1994; Robinson, 2001; Sternberg & Lubart, 1995) describe a person as creative only when he or she actually produces creative products. From this view, creative potential is not sufficient to warrant description as creative; actual products are necessary. As Bailin (1994) articulated, "creativity entails creating" (p. 85) and refers to the actual creation of significant outcomes.

To qualify as creative, products must meet certain criteria. First, they must be original; they must be *novel* or *new* (Bailin, 1994; Mayer, 1999; Robinson, 2001; Sternberg & Lubart, 1995). A quality duplication of something that already exists might be considered admirable or even outstanding in a technical sense, but it would not qualify as creative.

A second commonly accepted aspect of creative products is value; they are useful (Robinson, 2001; Sternberg, 1999; Sternberg & Lubart, 1995). They serve some need or function; they have utility (Mayer, 1999); they are significant in a particular context (Bailin, 1994). Both originality (novelty) and value (usefulness) are necessary. One without the other falls short. *Valuable* but not *original* translates into an old-hat presentation of previously considered ideas. *Original* but not *useful* translates into odd or bizarre products. But put the two together and we have true creativity: Einstein's theory of relativity, Emily Dickinson's poetry, the Wright Brothers' first flight; or perhaps one of the countless ways that creativity shows up in everyday life, resulting in an innovative lesson, a new song, or an imaginative student project.

Robinson's (2001) definition captures these elements. He defines creativity as "imaginative processes with outcomes that are original and of value" (p. 118). This acknowledges the importance of the creative process, but clearly emphasizes that to qualify as creativity, this process must result in original and useful outcomes or products.

Is a child who is daydreaming in class being creative? He or she may be actively engaged in a rich fantasy, fighting dragons or seeking buried treasure rather than completing a math assignment. This is certainly a use of imagination, but is it creativity? According to the above definition, it is not. One might argue that the fantasy is a creative product. But Robinson (2001) emphasized that creativity goes further than these sorts of private imaginings and that although private imaginings may have no effect in the public world at all, creativity does.

Some researchers (Bailin, 1994; Sternberg, 2003; Sternberg & Lubart, 1995) also include the notion of *quality* in their discussion of creative products. Creative work is original, useful, *and* of quality. Sternberg (2003) described creativity as the ability to produce work that is novel, high in quality, and appropriate, and Bailin stated that creativity is "achieving extraordinary ends" (p. 85).

The inclusion of quality speaks to another pedagogical issue. Some teachers have reported a kind of dissonance regarding creativity (Ai-girl & Lai-Chong, 2002) because while they are encouraged to use activities that help to foster creative potential they are also required to maintain high academic achievement. Ai-girl and Lai-Chong emphasized the importance of clarifying that fostering creativity and high academic achievement are not two separate entities.

Therefore, the working definition for creativity suggested in this article is imaginative processes with outcomes that are original, high in quality, and of value (Bailin, 1994; Robinson, 2001; Sternberg, 2003).

Enhancing Creativity: The M.U.S.I.C. Model

In terms of enhancing creativity, something that has both strong intuitive appeal and the support of the existing literature is the notion that creativity

involves a confluence of many contributing factors (Amabile, 1983; Sternberg & Lubart, 1995) and an interaction of essential elements (Amabile, 1989). As Csikszentmihalyi (1996) emphasized, many commercial programs that strive to increase individual creativity tend to focus on the style of creative thought called divergent thinking. But researchers (Amabile, 1983; Bailin, 1994; Csikszentmihalyi, 1996; Sternberg & Lubart) have stressed for decades that the conditions for creativity include a great deal more than styles of thinking. Indeed, those interested in enhancing creativity must take into account many other variables including motivation (Collins & Amabile, 1999); social impact (Amabile, 1983); knowledge and skills in a particular domain (Amabile, 1989; Nickerson, 1999); work habits (Piirto, 1992; Torrance, 1979); and the capacity to persevere during times of hardship, frustration, and rejection (Sternberg & Lubart; Torrance).

In this article I organize and discuss these variables in five categories as represented by the acronym M.U.S.I.C. Motivation, commitment (and as presented below, this element can be referred to as *uncommon* commitment), skill, imagination, and courage. The rationale for this model is threefold.

First it draws from Amabile's (1989) model for creativity enhancement. Amabile articulated that the creative process involves three main components: *domain skills* such as ability in a particular area; *creative thinking and working skills* including the ability to break out of old patterns of thinking, the ability to persist in the face of hardship, and the willingness to work hard; and *motivation*. All these elements are included in the M.U.S.I.C. model.

As well, certain elements that were included as subthemes in Amabile's (1989) model were given particular emphasis in other research. For example, aspects of courage, which are included in *creative thinking and working skills,* are considered among the most essential characteristics of creative individuals by some researchers (May, 1975; Torrance, 1995). Similarly, the role of dedicated effort has been underscored in a wide array of research (Csikszentmihalyi, 1996; Gardner, 1993; Maslow, 1972; Wallace & Gruber, 1989). As such, in organizing these elements, courage and commitment were placed in their own categories. The importance of each element is also discussed in more detail below. Finally, because the use of mnemonic devices tends to produce substantial improvements in memory (Cook, 1989), the elements are organized using the acronym M.U.S.I.C: Motivation, Uncommon commitment, Skill, Imagination, and Courage. Each element is discussed below and is then followed by suggestions for practical applications.

Motivation

Research exploring the conditions of creativity has commonly included motivation (Amabile, 1989; Rogers, 1976; Sternberg & Lubart, 1995) and emphasized its prime importance. Amabile considered it the most crucial factor in creativity. Poet/psychologist Swede (1993) suggested that people are not extraordinarily creative because they have supernormal mental abilities, but rather because they have exceptional motivation.

Motivation is commonly discussed in two major forms: intrinsic and extrinsic. When we are intrinsically motivated, we are involved in an activity for its own sake. We simply enjoy doing it. It is satisfying and rewarding. When we are extrinsically motivated, we create to receive something else (i.e., recogni-

tion, financial reward, an *A* in a course, etc.) and our motivation stems less from direct involvement in the activity than it does from the rewards the activity will bring.

It is generally agreed that people will be most creative and productive when their reason to create comes from within (Amabile, 1989; Nickerson, 1999; Rogers, 1976). High levels of creativity simply require this kind of motivation (Collins & Amabile, 1999). This is why Torrance (1995) emphasized that if young people are to become truly creative, it is essential that they fall in love with some field of endeavor. And this is why Collins and Amabile emphasized that the best strategy for enhancing creativity is to allow people to do something they love.

Although intrinsic motivation has been identified as essential if the highest levels of creativity are to be achieved (Amabile, 1989; Nickerson, 1999; Rogers, 1976), we also live in a world where extrinsic motivation—financial reward, school achievement, and so forth—regularly influences creative activity. Whereas earlier research (Hennessey & Amabile, 1988) explored the degree to which extrinsic reinforcement actually had a negative effect on creative expression, subsequent researchers (Nickerson; Piirto, 1992; Sternberg & Lubart, 1995) promoted the notion that both intrinsic and extrinsic motivation have value in regard to creativity. Piirto suggested that both intrinsic and extrinsic motivators have their place and that sometimes external rewards, including encouragement, can get the process going when interest is lacking.

Fostering Motivation

1. *Help students to find what they love*. One of the best ways that teachers can encourage creativity is to help students to find what they love (Robinson, 2001; Sternberg, 2003; Torrance, 1995). Robinson (2001) suggested that real creativity comes when we find our medium, our element. And Sternberg emphasized that to truly unleash children's best creative abilities and performances teachers must help them to find what excites them. Do they have a particular love of mathematics? Science? Writing? Teaching? Technology? Painting? Perhaps what they truly love is not a common part of the curriculum: training dogs, making movies, building rockets, and so forth. Encourage students to explore, identify, and talk about about what they love.
2. *Promote intrinsic motivation*. Because the highest levels of creative production tend to result when motivation comes from within, teachers can help to promote intrinsic motivation. Amabile (1996) suggested that we can focus students on intrinsic motivation by highlighting learning achievements rather than external indicators such as grades and competitive awards: emphasizing the joy of learning and focusing children on the development of their own competence and knowledge. As well, the attitudes, actions, and perceptions of teachers can have an important effect on the intrinsic motivation and creativity of children (Tighe, Picariello, & Amabile, 2003), and when students see that their teachers are intrinsically motivated, they tend to be more intrinsically motivated themselves. Teachers can foster creativity through modeling their own passions for teaching and creativity.

3. *Reward creativity*. Sternberg (2003) emphasized that teachers need to reward creativity. Praise, recognition, and encouragement can be offered for innovative work and new ideas (Houtz, 2003).

Uncommon Commitment

The importance of hard work and persistence in the creative process (Csikszentmihalyi, 1996; Maslow, 1972; Piirto, 1992) point to the importance of commitment. Because of the emphasis on the need for extraordinary effort (Nickerson, 1999; Policastro & Gardner, 1999) and the vital role of dedicated labor (Gardner, 1993; Wallace & Gruber, 1989), this element can reasonably be referred to as uncommon commitment. Commitment includes hard work, dedication, devotion, and discipline. Such attributes are necessary to the creative process and are commonly found in creative individuals (Csikszentmihalyi; Gardner; Nickerson).

Although many people may believe that inspiration is the most important factor in the creative process, the notion that we must feel inspired in order to create is a common misconception (Swede, 1993). Maslow (1972) also emphasized that the bright ideas of inspiration take only a small proportion of our time and that mostly we are involved in hard work. Uncommon commitment and the dedication and effort that stem from it are essential to creativity.

Fostering Uncommon Commitment

1. *Develop a creative working style*. Students can be encouraged to develop a creative working style. Teachers can help them to understand that those who produce truly creative work don't just have creative ideas. They also have a creative working style, which as Amabile (1989) points out includes:
   a. Dedication to doing the work well;
   b. Willingness to work hard;
   c. Ability to concentrate effort and attention for an extended time;
   d. Persistence in the face of difficulty.

   Encouragement and praise can also be offered to reinforce examples of hard work, dedication, and persistence.
2. *Put inspiration in its place*. Teachers can also foster creativity by helping students to understand that inspiration is only one part of the creative process. Creativity is not just about having great ideas; it is about bringing those ideas into being. Help to clarify the vital role that hard work and dedication play in the creative process. Explore and discuss this idea. Bring in guests who are actively involved in creative activities (entrepreneurs, artists, musicians, etc.) to speak about how much of their time is spent learning and polishing their craft, working hard to finish projects, and so forth.

Skill

The importance of domain skills (Amabile, 1989), knowledge (Sternberg & Lubart, 1995) expertise (Keegan, 1996), and mastery of one's craft (Gardner, 1993; Wallace & Gruber, 1989) point to the importance of *skill* in the creative process. Amabile put this element in perspective: "It is so obvious that people need skills in an area before they can be creative that we often ignore it" (p. 43). We simply need to know a good deal about a field if we hope to make a creative

contribution to it. If we intend to play imaginatively with the ideas in a domain, we must know what those ideas are (Sternberg & Lubart).

Without exception every domain has skills and knowledge to be learned. The competence necessary for being creative in quantum physics is quite different from that required for creativity in teaching, entrepreneurship, or music. In fact some researchers (Amabile, 1989) consider it erroneous to refer to someone as a creative person. Rather, people are creative in a particular domain. As such, someone may be a creative entrepreneur or educator but a not-so-creative painter or musician. In any domain, creativity requires skill and knowledge.

Fostering Skill

1. *Identify important skills and knowledge*. Honig (2001) emphasized that without a strong knowledge base, even gifted children may not be able to participate creatively in particular subject areas. This is because all areas of creative activity without exception require particular skills and knowledge if the results are to be novel, useful, and of quality. For example, as well as being imaginative, a creative writer needs skill in character and plot development, editing, accurate spelling and grammar, and so forth. Students can be encouraged to identify and develop the particular skills and knowledge necessary in their own areas of creative interest.
2. *Help students to develop their talents*. Most children have some level of talent in one domain or another (Amabile, 1989), and this talent, even if it at a high level, needs to be further developed. As Amabile stated, "This talent, combined with good education and enriched experience can give [students] all the skills they need to be creative" (p. 45).

Imagination

The role of divergent thinking skills (Guilford, 1975; Plucker & Renzulli, 1999), creative thinking (Nickerson, 1999), and thinking styles (Amabile, 1983, 1989) point to the importance of imagination in the creative process. Some (Bailin, 1998) have suggested that it is the most central component of creativity. Without imagination creative attempts lack an essential component. They remain an ordinary reshuffling of what already exists. There is nothing novel or innovative.

Policastro and Gardner (1999) described imagination as a sort of playful analogical thinking that combines previous experiences in unusual ways, generating new patterns of meaning. It has also been described as simply the capacity for originality (Runco, 1989).

Certain thinking skills have been associated with imagination. Amabile (1989) identified a number of styles often observed in creative people including the ability to break out of old patterns of thinking and the capacity to keep options open as long as possible. The ability temporarily to suspend judgment while generating many alternatives—a key component of brainstorming—is also important, as is the ability to think broadly, to see as many relationships as possible between diverse ideas.

These thinking styles share similarities with what is known as divergent thinking (Guilford, 1950, 1975; Plucker & Renzulli, 1999). Important dimen-

sions of divergent thinking include fluency, the production of many ideas; flexibility: producing diverse categories of ideas or those from varied perspectives; and originality: producing unlikely and unique ideas. Imagination is essential to creativity.

Fostering Imagination

1. *Actively engage the imagination.*
    a. *Use Socratic questioning*. Honig (2001) encourages the use of Socratic or open-ended questions as a way to stir up student thinking juices. Such questions can lead to imaginative ideas and great flights of fancy. Examples of open-ended questions she suggests include: "What could happen if cats could bark when they wanted to?" "What could happen if it always rained on Saturday?" "What if cars never wore out?"
    b. *Write silly stories*. Honig (2001) also suggests writing silly stories as a way to free the creative thinking (and writing) of students who tend to be reluctant to express themselves. She emphasizes that students who have been overly criticized for spelling errors or messy papers often need to develop trust that their silly names and ideas will be accepted.
    c. *Play with ideas*. Fostering creative development involves the balance of learning skills with stimulating the imaginative exploration of new ideas; the creative mind plays with the things it loves (Robinson, 2001). Make time to play with ideas.
    d. *Cultivate curiosity and interest*. Csikszentmihalyi (1996) suggested that the first step to a more creative life involves the cultivation of curiosity and interest, and he suggests that we work at being surprised by new things every day: new topics, new ideas, new subjects. He also suggested that we try to surprise others every day as well: Ask questions we wouldn't ordinarily ask, consider breaking out of our comfortable routines. We can also directly encourage curiosity in our students and make our classrooms curiosity-friendly spaces that promote wonder and imagination.
    e. *Use creative thinking styles*. Certain ways of thinking and approaching problems tend to promote creative outcomes. These creative thinking styles can be integrated into problem-solving and idea-generating activities. The following are adapted from the work of Amabile (1983, 1989, 1996).
        i. *Breaking cognitive set*. Sometimes creative solutions can be found simply by trying something new;
        ii. *Keeping options open as long as possible*. Creative people are flexible and strive to remain open. They test their hunches. They are not rigid and closed;
        iii. *Suspending judgment*. Suspending judgment is at the heart of the well-known brainstorming approach. All ideas are welcome; judgment of the creative ideas is suspended until later;
        iv. *Perceiving freshly*. This refers to making the attempt to see things differently from how people normally see them. Can we see a problem with "fresh eyes"?
2. *Encourage a skilled imagination*. Making sound judgments is an important part of the skill component of imagination (Bailin, 1994). As well as being

a process of generating new ideas, imagination also involves a process of making judgments about them. Some projects and ideas are worth following, and some are not. Help students to evaluate their work and to make good judgments about it. Also, keep in mind that it is important to make sure that this evaluative element of creativity is not brought in too soon. Imaginative generative thinking needs time to flower (Robinson, 2001). If brought in too soon, evaluation can inhibit the creative process.

Courage

Because creativity tends to test the mettle of the creative person (Gardner, 1993), require risk-taking (Dacey & Lennon, 1998; Torrance, 1962), perseverance in the face of obstacles (MacKinnon, 1978; Sternberg & Lubart, 1995), and the ability to endure pain while being in a minority of one (Torrance, 1995), courage is an important element of creativity. In fact this construct has been touted as one of the most essential characteristics of the creative person (May, 1975; Torrance, 1995).

Creativity involves facing challenges, making mistakes, and most certainly taking risks and being different. It takes courage to go against the crowd, and this is often what creativity requires. Indeed Sternberg and Lubart's (1995) book on creativity was named for this dynamic: *Defying the Crowd.*

As well, initial rejection is often the likely fate of any truly innovative work (Gardner, 1993). Because it is so new and different, others often have great difficulty seeing its value. Sternberg and Lubart (1995) point out that although the worst work tends not surprisingly to be met with rejection, so too does the best work. The more creative and outstanding it is, the more unusual and different it tends to be, and thus the more it tends to be met with rejection. This is why Torrance (1995) emphasized that one of the truly vital characteristics in outstanding accomplishments is the ability to hold onto one's own ideas in the face of ridicule and disagreement. Courage is essential to creativity.

Fostering Courage

1. *Build confidence*. Because self-confidence is a basic requirement for personal courage (Torrance, 1995), teachers can help build confidence.
   a. *Encourage reasonable risk-taking*. Teachers can strive to provide an atmosphere where experimentation and risk-taking are encouraged, not stifled (Robinson, 2001; Sternberg, 2003). Provide opportunities for students to take on manageable challenges.
   b. *Encourage respect in the classroom*. Because students can often withhold suggestions and ideas out of fear of being laughed at or ridiculed (Torrance, 1995), it is important to encourage respect for others and for their ideas. When students feel safe, they tend to be more willing to speak up. Make a point of acknowledging the importance of welcoming, and even seeking out, unusual ideas. Encourage those who have demonstrated the courage to speak up and express unusual or original ideas.
   c. *First the hill, then the mountain*. This is a variation on risk-taking. Students can be encouraged to attempt smaller, less challenging versions of bigger goals. This is particularly useful when they feel overwhelmed by a particular objective. They can engage in a less daunting one as a

way to build confidence. For example, a student hoping to deliver a speech to the entire school could begin by giving the talk to his or her class or to a handful of other students.

2. *Highlight the value of mistakes.* Teachers can reinforce the notion that mistakes are actually a part of the creative process and that truly creative products do not come about without them being made. This notion can be reinforced simply by allowing mistakes (Sternberg, 2003) and by highlighting their informational value (Amabile, 1996). Ask: What was learned from the mistake? How did it contribute to the creative outcome?

As explored above, creativity involves more than creative potential. It involves the production of novel, quality, useful products. Generating truly creative products involves more than imaginative thinking and flashes of inspiration. It requires motivation, uncommon commitment, skill, imagination, and courage. Remove motivation and you remove the reason for action. You remove desire and purpose. Gone is the energy that puts the creative process in motion. Remove uncommon commitment and the result can be an abundance of unfinished works. Even if brilliant in their conception and potential, their value can only be realized if they are completed. Creative potential is not creativity. Remove skill and knowledge and you have creative mediocrity or creative incompetence. Novelty and newness must be balanced with usefulness and practicality. Advances in all fields begin with competence and understanding in the field as it is. Remove imagination and you have the mundane and the ordinary, a perennial reorganizing of what already exists. Without imagination nothing new comes into being. Remove courage and the greatest of ideas can go unexpressed, the greatest potential unrealized.

Conclusion

Over the past 20 years, creativity has become centrally relevant to education on a global scale and is described by policymakers, researchers, and politicians as a significant part of the education process (Craft, 2005). Creativity is also a complex construct, however, and the 50+ years of scientific research have been carried out from diverse perspectives. Many researchers suggest that creativity can indeed be enhanced, and although full consensus as to how this can be achieved is not to be found in the literature, many suggestions are made. The M.U.S.I.C. model presented in this article suggests one way of organizing the factors involved in creativity, and support emphasizing the importance of each is presented.

It is also important to discuss the limitations of these ideas. Although the M.U.S.I.C. model can be used to help to recall and apply important aspects of creativity, further research is necessary to address the degree to which the model can be reliably and validly applied. Further questions need to be explored, including: Are all elements necessary in any creative endeavor? To what degree can a particular strength in one area (i.e., skill) make up for a lack in another area (i.e., motivation)? Does increased awareness about the factors involved in the creative process lead to enhanced creativity? Further research is needed in these areas.

I hope that the perspective offered in this article can be of use to educators who are drawn to explore and enhance creativity and that it helps to provide

one step toward clarity in the challenge of dealing with this wonderful but complex construct.

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