

CREATIVITY IN ALL ITS FORMS

WITH A CAPITAL “R”

This article and its attendant research will be the subject of a discussion and critique at the next symposium of the Association québécoise de pédagogie collégiale (AQPC), to take place in Gatineau from June 6 to 8, 2012. For more details on the ‘Avec un grand “R”’ series organized jointly by the AQPC, the Association pour la recherche au collégial, and the Centre de documentation collégiale, go to the respective Websites of these organizations [www.aqpc.qc.ca, www.cvm.qc.ca/arc, or www.cdc.qc.ca].

Convergent analyses (Kao, 1998 and Florida, as reported by Hochereau, 2006) confirm that we have gone from an industrial era to a time of creativity. At present, our society is facing significant challenges that require original solutions. Employers are looking for the most creative candidates, regardless of trade or profession (Edwards et al., 2006). Quebec’s Department of Education, Recreation, and Sport (MELS) has asked CÉGEPs to introduce five college-level skills, including one called “exercising creativity” (Cégep Marie-Victorin and the MELS’s Direction de l’enseignement au collégial, 2010). Accordingly, it is paramount that we help our students understand what creativity actually means, and how it can be put to best use.

Studies conducted in Quebec and elsewhere show that, when attempting to define creativity, we are not all talking about the same thing (Edwards et al., 2006; Goetgheluck, 2008; Labelle, 2001; Murray, 2004; Oliver et al., 2006). Because researchers cannot seem to arrive at a common definition of the concept, “creativity” is still poorly defined, and it is difficult to establish a consensus based on the many definitions that do exist.

Given this state of affairs, how do we help students develop their creativity in an optimal manner? What model should be used in teaching and learning about creativity? When I began work on this project, it was in an attempt to answer this and other questions, as, for me, a fashion-design instructor, developing creativity is vital.

The purpose of this article is to present the main findings of my research (Filteau, 2009)¹, as well as the way in which I have built on the model² developed.



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INTRODUCTION TO CREATIVITY

Like others who have studied the concept of creativity in depth and failed to arrive at a consensus, my research showed that students—even those who have enrolled in a program with an artistic dimension such as fashion design—do not agree on a definition either. In the first class, therefore, I ask them for written answers to the following questions:

- How do *you* define creativity?
- How do *you* tap into your creativity?
- What do I really want when I ask you to be creative?

Students write down their replies on a sheet of paper they then keep. In about the fifth class, I suggest we discuss the concept. As they have had time to reflect on my questions, they all have something to say, and can compare ideas. The main goal of this discussion is to ensure that we are all “on the same page” when discussing the theme of creativity. Given that this invariably proves not to be the case, I use these core questions to generate others that help me steer my students toward a common interpretation.

HOW DO YOU DEFINE CREATIVITY?

Most often, students answer this question by saying that creativity is an attitude or the ability to generate original ideas. For them, creativity is primarily a way of being different, of standing out from the crowd, and rarely a process.

As part of my research, I polled 26 students and 17 instructors on their definition of creativity. Table 1 shows that those definitions vary, with having original ideas taking precedence for the latter, and a certain attitude, for the former.

These different definitions can result in problems where a learning scenario is concerned, since each instructor has his or her own conceptual framework and related vision.

¹ This study, conducted under the supervision of Marie-Hélène Guay as part of an MEd from the Université du Québec à Montréal, is available at the Centre de documentation collégiale (CDC).

² In this article, because of space constraints, I have presented only certain parts of the model (Filteau, 2010), not the model in its entirety. The complete model, however, is available at the CDC as a poster.



TABLE 1	
DEFINITIONS OF CREATIVITY	
STUDENTS (26)	
Number of students ³	Definitions
13/26	Attitude/Skill/Way of being
10/26	Having new ideas
INSTRUCTORS (17)	
Number of instructors ⁴	Definitions
11/17	Having new ideas
6/17	Attitude/Skill/Way of being
3/17	Able to solve problems

Practices thus vary from one teacher to another, with one possible outcome being that courses dealing with creativity are merely juxtaposed rather than being interrelated via consistent, interconnected instruction and learning. Upon completing their program, students are therefore obliged to summarize their instructors' views. Is it logical to ask students to do so when teachers have not always performed this exercise themselves?

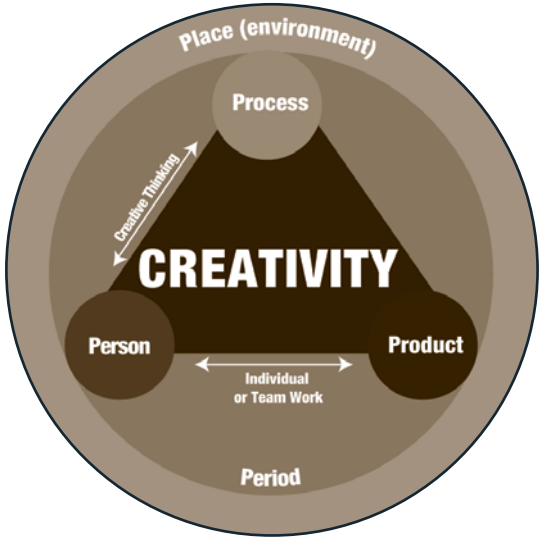
In my readings, the definition I found most often stipulates that creativity is the ability to produce new, appropriate ideas. This definition is geared toward the creative product, i.e., the creative outcome. Other authors define creativity by highlighting the qualities of the creative individual, considering creativity an attitude (just like my students). Still others insist that creativity is more of a process.

In 1961, Rhodes was one of the first to examine definitions of creativity. Rather than arriving at a single definition, however, he was the first to distinguish four, which he called the "4 Ps": person, place, process, and product (the term "place" signifies the environment in which the creative individual develops). Today, many authors still use the "4 Ps", together or separately, to define creativity. Definitions that include the "4 Ps" seem among the most complete to date, as they comprise a number of different dimensions. Nonetheless, I was able to develop a simple model and a more complete definition that incorporates the "4 Ps", adds a fifth, and proposes the means to unite them all.

Person, process and product are interrelated by creative thinking and individual or joint creative efforts. Furthermore, creativity is always exercised over a given period of time,

which justifies the addition of a fifth "P": period. This new "P" incorporates person, product and process, as well as the ties that unite them. As for place, it encompasses the others and the resulting ties. The model is therefore composed of "5 Ps" (person, process, product, place, period) and links (creative thinking and individual or team work), forming a system. This is the definition and model (see Figure 1) I present in class.

Figure 1
MAIN CREATIVITY MODEL



■ HOW DO WE DEFINE A CREATIVE PERSON?

After we have agreed on this definition and model, I have my students name the various aspects they feel promote creativity. During the discussion, they explore and detail the skills that allow people to use their creativity in an optimal fashion. Mood is a point that usually comes up quickly; students are aware that happiness helps some to be creative, while sadness leads others to innovate. They also agree that there must be an interaction between cognitive and affective abilities if creativity is to flourish.

Students thus arrive at the conclusion that it is extremely difficult to be creative in a field one knows nothing about, and that it is crucial to develop one's expertise to become skilled.

³ The total number of answers is less than the number of students (26) because all answers have not been included in the table.

⁴ The total number of answers exceeds the number of instructors (17) because some respondents included several definitions in their answers.



In particular, the mobilization of knowledge can mitigate belief-induced limitations.

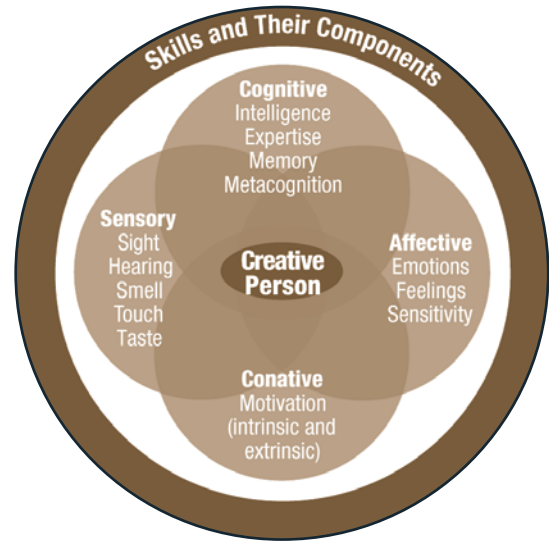
Thanks to this dialogue, students also learn that memory plays a major role in creative endeavours, as it stores and re-construct data. At this point, they realize the relevance of my invitation to carefully scrutinize their surroundings in order to memorize images or ideas (which will eventually reappear in various forms). Moreover, at different times during the session, I encourage them to note what works well for them as regards specific projects—i.e., the activities related to their own creative process. In this way, they become aware of their own mental processes by activating their metacognitive skills.

When I then ask if it is possible to be creative without motivation, they immediately reply in the negative, displaying their grasp of the interdependence of motivation and creativity. They understand the importance of overcoming obstacles rather than merely tolerating them, and realize it is beneficial to consider limitations as challenges rather than reasons to lose motivation. The students comprehend that, thanks to their conative ability⁵, they can accomplish their goals. I explain that this conative ability is composed of intrinsic and extrinsic motivation that forces them to act. Intrinsic motivation is determined by an individual's intent; when the latter is strong, perseverance and the desire to explore give rise to rewarding accomplishments. Extrinsic motivation, on the other hand, is determined by what is external to the individual, such as rewards or external constraints, which can result in either momentum or retreat. While rewards can exert considerable motivation, constraints can result in its loss. When encouraged to reflect on the matter, students agree that both types of motivation are needed for creativity to come to the fore.

Over the course of our discussions, students also end up mentioning the importance of the senses. Creativity is possible thanks to perceptions made possible by the sense of hearing, smell, touch, taste, and sight. Students easily understand that these perceptions are transformed into emotions or data, and then stored in memory.

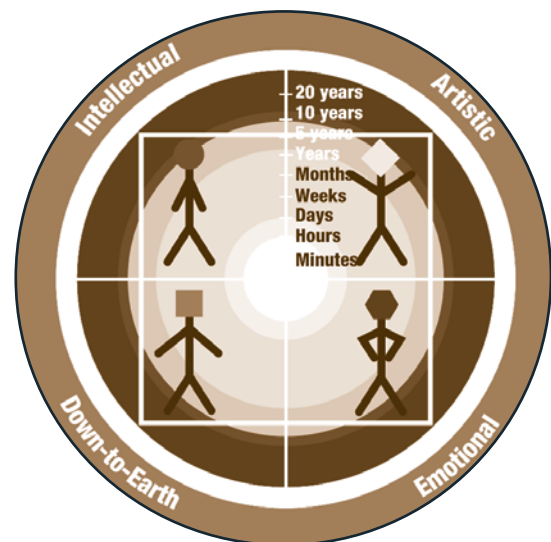
From a knowledge standpoint, therefore, we can say that exercising creativity presupposes an interaction among cognitive, affective, conative, and sensory skills (Figure 2), and that, as a result of this interaction, person "A" may develop a personality that is more creative than that of person "B". When students are exposed to these concepts, they see the importance of developing all these skills; some even realize that certain skills may offset a lack of others—for example, that high motivation can offset a lower level of expertise.

Figure 2
THE CREATIVE PERSON



Eventually, taking Herrmann (1996) and Basadur (1998) as my sources, I explain that people who are able to develop their creativity-related skills can be associated with different personality types, which I label intellectual, down-to-earth, emotional, and artistic (Figure 3); this helps the students to categorize themselves.

Figure 3
TYPES OF CREATIVE PEOPLE



⁵ Ability that motivates individuals to act.

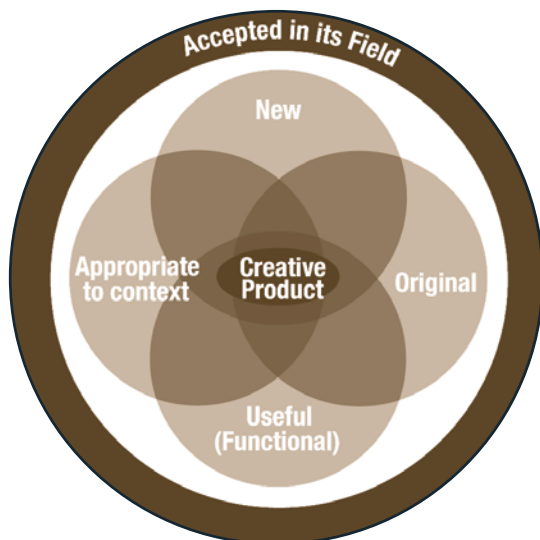


After discussing the topic of the creative person, the students understand the importance of all the courses in their chosen program (from a teacher’s standpoint, this is a considerable advantage!). They realize it is essential to learn different, less artistic techniques if they want to make an innovative fashion statement—i.e., that technique assists in the creative process, and that *all* their courses (not just their design classes, as they unfortunately so often believe) will help them develop the skills associated with creativity.

▶ HOW DO WE DEFINE THE CREATIVE PRODUCT?

The end result of the creative process, what the literature refers to as the “creative product,” is the outcome of a process, whether conscious or unconscious. It takes different forms: ideas, visual or literary works, scientific discoveries, and so on. If the product is new, original, useful, valuable (or functional), appropriate to the context, and accepted by the target market (Figure 4), it qualifies as a creative product. Even if it meets only some of these criteria, it may still be termed creative, as its qualities may offset its deficiencies.

Figure 4
THE CREATIVE PRODUCT



After we examine the characteristics of a creative product, I ask the students to evaluate their own product, determining if it is new, original, functional, and adapted to the context. In most cases, their evaluations are accurate. In other words, students who evaluate their own creations are capable of correctly assessing the creative value of their project. They also

learn more than those who passively wait for the grade assigned by the teacher. The students then display their project, and their classmates choose the best ones in accordance with the abovementioned criteria; via this feedback, students know firsthand if their product accepted by their peers.

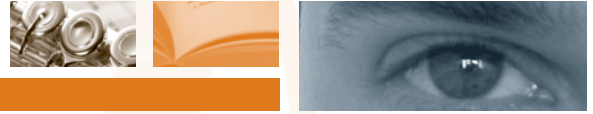
▶ CAN A PERSON BE CREATIVE IN ALL SURROUNDINGS AND AT ALL TIMES?

Most students consulted said they were more creative in the comfort of their own home, finding it problematic to be creative in class. “Place,” one of the “5 Ps,” is characterized by a variety of factors that detail the environment of the creative person. These factors—culture, values, history, and tradition or the type of rapport involved with members of a community (Figure 5)—either promote or hinder creativity.

Figure 5
THE PARTICULAR ASPECTS OF THE CREATIVE PERSON’S ENVIRONMENT



Students understand that environmental constraints can be overcome via motivation. They also realize that, because they will definitely be called on to be creative in their workplace—i.e., in a location that is less pleasant—it is better to develop strategies to overcome this difficulty as soon as possible. Furthermore, in an educational or professional context, as deadlines are often tight, students must also establish time-management strategies. After discussing the matter, they are easier to convince of the need to learn how to create in class, even if what they consider optimal conditions are not all present.



► HOW DO YOU DO TAP INTO YOUR CREATIVITY?

When I ask my students how they tap into their creativity, they reply that they listen to music or just relax. I then ask them if they think an employer would be satisfied with that answer. They realize that the context in question is idealistic, and that what I really want is specific action.

But what does the creative process consist of, exactly? The answer to that question could take up an entirely separate article, given the vast nature of the subject. However, the broad outlines of the process, which is not always thought out and is often unconscious, can it can be defined as follows.

The creative process is composed of five iterative feedback-generating steps (Figure 6). Very often, it begins with the “determination of a task,” or the establishment of an objective in the shape of a problem to be solved, a task to be performed, or data to be gathered. Next comes the “generation of ideas.” This step consists in imagining potential solutions or suggestions, and is frequently followed by “illumination,” or a spontaneous intuitive thinking characterized by feelings of being “struck by the muse.” This intuitive ability to suddenly discover solutions to certain problems stems, in part, from the information stored in the memory of the creative person. Next, “verification and validation” makes it possible to test or fine-tune ideas, as the case may be, in order to redefine the product before presenting it. Lastly, “acceptance and communication” consists in presenting a creative product that will be acceptable to the target market.

Each of these steps is separated by potential “incubation or tension” phases. For some, the incubation interval is characterized by the suspension of conscious cognitive functions, and results in illumination or the transition to another step. For others, the tension—i.e., an intense mental effort—generates creativity.

While the preceding explanations suggest that the steps follow one another in logical order, this is not always the case. During “acceptance and communication,” an expert’s comment may result in “illumination” that motivates the creative person to perform a new task. Similarly, the “verification and validation” step may produce other ideas. In Figure 6, the bidirectional arrows on the circumference of the circle, as well as those in the centre, are a good illustration of the iterative nature of the creative process.

When giving my students certain assignment instructions, I ask them to note the different actions they perform, so they become aware of the steps involved in their own creative

process. This also makes them aware of their strengths and weaknesses while bolstering their metacognitive skills.

► IS CREATIVE THINKING A SYNONYM FOR “CREATIVITY”?

Creative thinking is a way of processing information in which divergent and convergent- thinking interact. The complementary action of these two types of thinking constitutes a creative thinking. Divergent thinking makes it possible to imagine different possibilities while suspending judgment, whereas convergent thinking puts judgment to work in making informed choices. Creative thinking draws on a variety of skills (fluidity⁶, flexibility⁷, originality⁸ and complexity⁹); it also depends on individual abilities and lies at the heart of the various steps of the creative process.

In Figure 6, creative thinking is illustrated by a diamond-shaped graphic symbolizing openness to different possibilities (divergent thinking) that leads to closure via the selection of a solution (convergent thinking). Fluidity and flexibility are illustrated by two different dotted areas representing the large number of ideas involved. Originality is represented by a white star, so as to highlight its exceptional character. While these three skills are exercised via divergent thinking, complexity draws on a more logical, and therefore more convergent, process, as the numerous details allowing for the explanation and implementation of an idea must be considered. Closure also uses rational judgment to find the best solution. The choice of those solutions is illustrated by various points above the diamond. The four abilities associated with creative thinking may thus be activated at any phase of the creative process except illumination.

After reflecting on the concept of creative thinking and what promotes it, my students realize that it is best not to content themselves with their initial idea, but rather to try to find different ways of generating original and new ones. They also grasp the importance of fleshing out their project with as many details as possible, thereby making their ideas more explicit.

⁶ Fluidity is the ability to produce a large number of ideas.

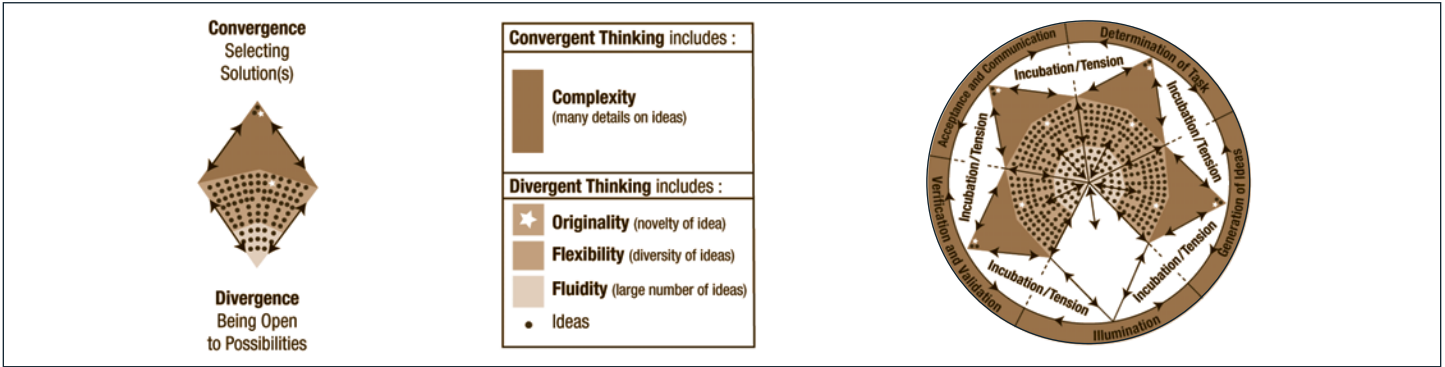
⁷ Flexibility is the ability to produce a variety of different ideas.

⁸ Originality can be summarized as the ability to come up with extraordinary ideas.

⁹ The term “complexity,” which corresponds to the many details required to implement an idea, should not be confused with something complex in nature.



Figure 6—THE CREATIVE PROCESS AND CREATIVE THINKING



DOES INDIVIDUAL OR TEAM WORK BEST PROMOTE CREATIVITY?

As mentioned previously, creativity can originate in both individuals and groups. Groups can occasionally inhibit or stimulate the production of ideas, just as working alone may either hinder or promote creativity.

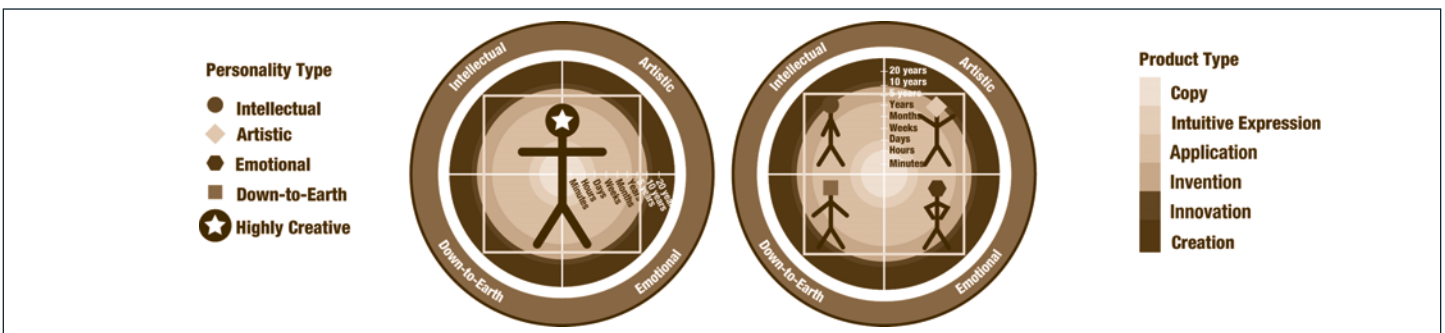
Several authors suggest establishing teams that bring together people with different skills associated with the four personality types (Figure 3), thereby reaping the best of each individual, a phenomenon referred to as a “creative alliance.” Once students understand this fact, they more readily agree to work with assigned teammates whose personalities differ from their own, especially when I tell them that, according to Herrmann (1996), only 3% of the population can be qualified as highly creative. In other words, only a small proportion of individuals are likely to change the course of history or society with their creative endeavours (Leonardo da Vinci, for

example). These individuals are capable of developing the skills of all personality types in an optimal manner.

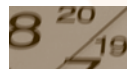
Some authors offer other interesting information on these highly creative individuals, explaining that ten to 15 years of learning and hard work are generally needed before they have an effect on society via their creative endeavours (Lubart et al., 2005; Piirto, 2004). Once again, we can see that time is a vital aspect of the definition of creativity.

To sum up, highly creative individuals or teams that form alliances (based on personality type) can have a fairly significant effect on their entourage in keeping with the kind of product¹⁰ (from copying to creating) they make, as shown in Figure 7.

Figure 7—INDIVIDUAL OR TEAM WORK AND EFFECT PRODUCED BY PRODUCT TYPE



¹⁰ For more details on the legend to the types of creative products and their effects, consult my research report.



CONCLUSION

By and large, we can say that, when I ask my students to be creative, they must aim to create an innovative product using a process (conscious or unconscious) in a specific, occasionally unwanted environment by a specific deadline (which may or may not be tight). Simply discussing the topic of creativity brings us closer together, and, because we understand one another better, students are more open to criticism and more receptive to my suggestions. They are also more likely to step outside their comfort zone and try something new, wanting to challenge themselves and bask in their achievements. I can happily testify to this! After our discussion, I give my students course notes including the main model (Figure 1) and accompanying explanations (figures 2 through 7), which they can consult throughout the session.

Furthermore, I can confirm that the model is applicable to curricula other than that of fashion design: during my research, I was able to validate it with 54 participants from 20 different programs at 19 CÉGEPs. By means of this process, I was able to conclude, in particular, that the model can improve the consistency and homogeneity of methods for teaching creativity in a number of different fields, and that it promotes better communication by giving teachers a creativity-specific frame of reference. Accordingly, the model would seem, not only transferable, but also useful in several teaching context.

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