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Anthony Stamatoplos  
stamatoplos@mail.usf.edu

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## Creativity in Information Literacy Teaching: Part One – Understanding Creativity

Anthony Stamatoplos, University of South Florida St. Petersburg

Take a moment and think about creativity and what it means to be creative. How would you define or describe it? What exactly makes something creative? Is it simply that it's new or the fact that it's different or fun? Also, beyond the 'what' is the 'who': Can *anyone* discover creativity within them and nurture it to improve their work and lives? For a long time, people saw creativity as a mystery, a quality that only certain gifted individuals possess—but is that true? Additionally, people commonly associate it with the arts, popular culture, or perhaps technological breakthroughs. But isn't creativity present in all domains, as well as in our everyday lives?

All these questions show that we often contemplate creativity, but it is not as well understood by the average person as it could be. Fortunately for us, experts increasingly extol the relevance and benefits of creativity in education, and scholars have long studied and developed creative educational practices. Librarians have joined in the growing interest in educational innovation, and seek to incorporate creative practices in information literacy and other aspects of the profession. To pick just one example, the theme of the LOEX2014 Conference is "Creative Visualization: The Art of Information Literacy," which is testament to the fact that librarians see value in creativity applied to their work.

It seems appropriate, then, to offer some thoughts about creativity and its application to teaching information literacy. To explore creative teaching, we must first understand some basics. The purpose of this two-part article is to encourage creative thinking and action in teaching information literacy, and suggest some ways to prepare for and achieve creativity in practice. Part One is an effort to demystify and create a general understanding of creativity. My intent is to provide a framework in which instruction librarians can consider creative techniques and practice, and nurture individual and program creativity (applying these techniques and practice will be the focus of Part Two of the article).

### Creativity: A Brief Overview

So what is creativity? Discussions of creativity center on its products and processes, and include perspectives from various disciplines. It is also useful to consider creativity as a behavior (Amabile, 1983; Mumford & Gustafson 1988), as it makes it less mystifying – it is something a person does. A recurring motif in creativity literature is the interrelationship between creativity and problem solving (Newell, Shaw, & Simon, 1959; Runco, 1994; Csikszentmihalyi, 1996; Mayer, 1999) and since problems occur everywhere, so can creativity. Creativity can be characterized as, "... the ability to solve problems that one has not previously learned to solve" (Mayer, 1989, p. 205). But there is not just a

"solving" aspect – many scholars emphasize that the key to creative problem solving is "problem finding," that is, identifying the problem (Mackworth, 1965; Csikszentmihalyi, 1996; Mayer, 1999; Sawyer, 2012, p. 90-93). Studies of creative people have found that "...the most important characteristic of creative people is an almost aesthetic ability to recognize a good problem in their domain; they know how to ask the right questions" (Sawyer, 2012, p. 65). Creative people "question the obvious," and "sense problems before they are generally perceived and are able to define what they are" (Csikszentmihalyi, 1996), p. 363). It is important to bear in mind, however, that the process does not always go "Step 1: Find problem; Step 2: Solve problem; Step 3: Success!"; selecting of a problem does not always occur at the "beginning" of the process, nor is the problem initially selected always the real problem that the individual eventually addresses.

When creative people ascertain there is a problem, they deviate from familiar or tried patterns; essentially, they "think different" (to use Apple's famous, if grammatically incorrect, advertising tag line). How is creative thinking "different" from the norm? de Bono discusses what he calls "lateral thinking," in contrast to the conventional "vertical thinking." A well-known quote illustrates this idea: "You cannot dig a hole in a different place by digging the same hole deeper" (de Bono, 1968, p. 4). A popular and well-worn cliché for this idea is "thinking outside the box." Similarly, de Bono and others discuss an aspect of creative thinking they call "generative thinking." Guilford and other scholars contrast two different types of thinking: *convergent* and *divergent*, characterizing creativity as involving divergent thinking. It involves open-ended thinking and focuses on generating multiple ideas about a topic, often to solve a problem (Guilford, 1950).

Another key aspect of creative thinking is making mental comparisons and associations. Consciously and unconsciously, the creative mind connects ideas and finds new combinations. Over a hundred years ago, Ribot identified and discussed "the capacity of thinking by analogy" as a fundamental element of creative thinking (1906, p. 25). Most scholars still identify the use of analogy and metaphor with creative thinking, and several suggest specific ways such associations might occur in the mind, shedding light on the creative process.<sup>1</sup> Metaphors and analogies can be a time for librarians to shine and creatively explain the information world, which our students often think they understand (they know how to use Google and Facebook already, right?), but typically do not, especially for academic work.

Finally, the essence of creativity is the combining of existing elements in a new way. Scholars and creators alike often characterize creativity as *connecting the previously unconnected*. This characteristic is key to understanding creativity. More than 2,500 years ago, the Greek philosopher Heraclitus observed, “A wonderful harmony is created when we join together the seemingly unconnected” (von Oech, 2001, p. 12, 59-60). More recently, technology innovator and entrepreneur Steve Jobs observed, “Creativity is just connecting things” (Wolf, 1996). Over the years, scholars, philosophers, and creative individuals continue to rediscover and restate this notion (Young, 1960; Bruner, 1962; Koestler, 1964). Definitions of creativity vary widely, however they typically incorporate the ideas of novelty and value. Sternberg and Lubart (1999), for example, define creativity as, “...the ability to produce work that is both novel (i.e., original, unexpected) and appropriate (i.e., useful, adaptive concerning task constraints)” (p. 3).

### Creative Thinking: Four Basic Stages

As stated at the beginning of the article, misconceptions about creativity are prevalent, and they can hamper our understanding (Sawyer, 2012, 12-14, 4-5-409). A common belief is that creativity occurs as a single act, an idea that appears suddenly and virtually from nowhere. Another belief is that it springs only from the minds of certain exceptional individuals. In contrast to this, creativity scholars have long generally described creativity as a recursive process with discernable stages. Almost 90 years ago, Wallas (1926) outlined and discussed the process of creative thinking, which entails four basic stages: *preparation*, *incubation*, *illumination* (today, many scholars call this insight), and *verification*.

**Preparation.** During the preparation phase, an individual acquires knowledge and skills of a particular domain (Wallas, 1926, p. 80-88; Sawyer, 2012, p.93-96; Amabile 1983). The initial component of Amabile’s three-part framework of creativity is “domain-relevant skills,” which form the basis for the rest of the creative process (1983, p. 362-364). Preparation includes formal education and continued experience and practice in the discipline. Without such preparation, there would be no grounding for creativity. Creativity is the result of considerable thinking and hard work. And this always begins with what is already known and done. Without familiarity with a domain, there would be no context or *raison d’être* for a creative work. Jazz great Charles Mingus, who was known to reflect on his art, once said of creativity, “Go where you can go, but start from someplace recognizable” (Charles Mingus).

**Incubation.** Incubation is the phase during which work is in essence “put aside,” at least in terms of intentional work, conscious thought, or focused attention. Wallas referred to this aspect of incubation as an “abstention of conscious thought” about a problem. But the individual unconsciously processes information related to it, making associations and

bouncing ideas off of one another. Some refer to this as the “creative pause” (de Bono, 1992). It is vital to allow for this open-ended part of the process. Wallas (1926) and others point out the importance of working on multiple problems simultaneously, regularly taking breaks and diverting conscious attention from them while working on other things, rather than simply trying to plunge forward. Authors, and creative people generally, use various metaphors, many of them culinary, to characterize the incubation part of the creative process. Do you ever let a problem “simmer,” for instance, as you consider it? Lewis Carroll, perhaps the epitome of a creative thinker, stressed the importance of this part of the creative process. In his essay, *Feeding the Mind* (1907), Carroll uses a diet metaphor to give advice on developing and caring for one’s intellect. Discussing one’s “feeding of their mind,” he stresses the value of resting between feeding intervals, to think over, for example, what one has read. During this time, one mentally “masticates” and “digests” the (intellectual) “food” (Carroll, 1907, p. 24-26). So literally, “let me sleep on it” is a good practice, as out of the incubation phase emerges what we often think of as the creative idea, that is, the illumination or insight.

**Illumination/ Insight.** The illumination stage, also called insight by some, is the culmination of the conscious and unconscious work the individual has done. This is the phase that seems to get the most attention. People commonly focus on it or believe erroneously that it is the act of creation itself. Wallas described this as the appearance of the “happy idea,” which he referred to as “illumination,” and many later authors call, “insight.” Though people might experience insight as a seemingly sudden occurrence (“Eureka!”), it really is the result of a lot of work and time invested. Have you ever wondered why so many of your new ideas or solutions to problems come to you seemingly out of the blue, such as in the shower, while exercising, or while otherwise not consciously thinking about your problem or need? Likely, without realizing it, you were already hard at work on it mentally, making associations, with bits of ideas bouncing off and combining with one another. Your insight was just one point along the whole process. I think one of the biggest mistakes we make can be to believe and act as though we are done at that point, as though the result is fully formed and complete. But a key piece is still missing—verification.

**Verification.** The verification stage is where the individual “goes back to work,” consciously refining and testing the idea or product. “The creative idea is evaluated, developed, and refined during the verification stage” (Lubart, 1999, p. 341). The work during this phase is analogous to work in the preparation phase. It involves reflecting and questioning the idea or creation, considering it critically. This generally involves selecting ideas and making decisions and implementing the final product. One might think of this as a “production” and “marketing” phase, in which the result or product solidifies, is elaborated on, and a field recognizes it for its value.

Wallas' influential model remains at the core of the thinking of today's creativity scholars (for example, see Csikszentmihalyi, 1996; Sawyer 2012; Torrance & Safter, 1990). Some modern scholars attempt to unpack the stages suggested by Wallas or suggest additional stages of the creativity process. I will apply an eight-stage version to our practical consideration of creative teaching in Part Two.

Creativity is not the great mystery that some may believe it to be, nor is it the province of a special class of people. It is something we can understand, nurture, and apply to our everyday lives and work. If we embrace and develop our own creativity, we can encourage creative practices for the benefit of others and ourselves.

Part Two of this article will focus specifically on understanding creativity in the context of teaching information literacy, and applying that knowledge to developing and implementing creative educational practices. To prepare for that, you might ask yourself some questions. For example, are there certain needs or challenges in your information literacy efforts which could use a fresh look from different perspectives? What knowledge areas, experiences, skills, and resources do you have? Thinking about creativity in terms of "making connections," what is available for you to connect, combine, or remix? You should include things outside of your traditional or assigned work, such as your other interests, avocations, disciplines you have studied, and even popular culture. The important thing is that you think about the "building blocks," tools, and skills at your disposal, and challenge yourself to think differently. You might be surprised at the possibilities.

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1 For more detailed discussions of various theories about how associative thinking may work in the creative mind, see for example: Spearman's discussion of "correlates" (1930), Koestler's discussion of "bisociation" (1964), Rothenberg's discussion of "homospatial thinking" (1976), and Sawyer's discussion of metaphor and analogy (2012, p. 119-121).