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Who or What Creates? A Conceptual Framework for Social Creativity

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Creativity is increasingly understood as a social phenomenon, especially in organizational contexts. This article offers a conceptual framework for social creativity that integrates perspectives from published literature. The foundational questions that structured the literature review are twofold. First, because both individuals and entities, such as teams, can be agents of creativity, who or what creates? Second, through what sites of action or contexts does creative engagement by individuals, groups, and organizations occur? An integrative review of the literature reveals that the engagement occurs in individuals, in individuals interacting, in group work, and in complex multilevel systems.

A concept map is used to represent the literature in this domain. This is then discussed with reference to the representative authors in each of the identified sectors. A set of names for the outcomes of the creative process is suggested, including individually generated creative outcomes, socially influenced creative outcomes, socially constructed creative outcomes, and socially generated creative outcomes.

Keywords: *creativity; social creativity; socially influenced creativity; team creativity; creativity and learning*

As Ford and Gioia (1995) point out, the traditional roots of the study of creativity “have focused overwhelmingly on the individual as the main, and often only, contributor to creativity” (p. xxi). Research has increasingly considered “creativity as a social as well as an individual and intrapsychic phenomenon” (Montuori & Purser, 1995, p. 70). Researchers have looked at a range of ways in which creativity has social aspects. Some examples include social influences on

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creative individuals through interaction or relationships (Madjar, 2005; Perry-Smith, 2006), individuals operating in multiple social domains (Ford, 1996), organizational factors that influence individual creative behavior (Amabile, 1988, 1996), and the effect of social networks on individual creativity (Perry-Smith & Shalley, 2003).

Calling it an issue of attribution, Amabile (1995) asserts that when we adopt a perspective that includes the social, "we must abandon the person-centered definition" (p. 424) of what creativity is and think instead of situational factors along with personal characteristics. She recommends that much can be learned by taking a systems approach to the study of creativity so that persons and situations and "their complex interactions and feedback cycles" (p. 425) are considered.

Beyond the focus on how individuals' creativity is affected by external situational variables, there have also been efforts to explore creativity in interpersonal collaboration (John-Steiner, 2000). It has also been reported that teams as well as individuals may produce creative outcomes (Barlow, 2000; Kasl, Marsick, & Dechant, 1997), and larger systems, like organizations, may have characteristic environments that engender creative behavior or are creative themselves (Robinson & Stern, 1997). If assumptions about attribution are brought into question and the individual is not solely the creator, then groups and organizations can be identified as sites of engagement in creativity.

Furthermore, when a systems approach is brought into consideration, multiple levels, such as individuals, groups, and organizational variables, are seen as interacting within an organizational system (Crossan, Lane, & White, 1999). There are also cross-level interactions that influence individual, group, and organizational creativity (Woodman, Sawyer, & Griffin, 1993). When multiple levels are considered together in a systems approach, there are effects that move through the system and lend themselves to a level of analysis approach, while still retaining a focus on creative processes within each of the levels. The need to understand across multiple levels of analysis "makes understanding creativity more complex yet intriguing" (Zhou & Shalley, 2003, p. 207). Taking an integrated view, although challenging, provides a fuller examination of the realities in practice settings and enables us to study the variables involved at the organizational level as well as at the individual and group levels (Drazin, Glynn, & Kazanjian, 1999).

The phrase "social creativity" has been used to characterize creative engagement in social domains, but it has many meanings. Social creativity is described as sociologically based social change in Domingues's (2000) *Social Creativity, Collective Subjectivity and Contemporary Modernity*. In other words, it is what happens when a society reinvents itself. Social creativity is also the creative way in which children interact with others in finding original solutions to problems in their interpersonal or social domains (Mouchiroud & Lubart, 2002). Social creativity is also the creativity that is housed in or even generated within social contexts. It is the interaction and mutual influence of environments and individuals that lead to the improvisational creativity of a jazz band or the creative output of a work team (Montuori & Purser, 1999).

This article reviews a sample of creativity research on the basis of the observations outlined above. First, there is little clarity on what social creativity is. Second, when individuals, groups, or teams and organizations engage in creativity, who or what creates? In other words, to whom can we attribute the creative outcomes? If it were possible to trace the source of new ideas, could they be tracked back to a creative person, to individuals who worked together, to a team or, in a broader sense, to an organization? Drazin et al. (1999) use the terms *intra-subjective*, *intersubjective*, and *collective* to describe these levels. Third, through what sites of action or contexts do creative engagement by individuals, groups, and organizations occur? As cited above, the engagement occurs in individuals, in individuals interacting, in group work, and in complex multilevel systems.

These questions were used to query published research to organize the perspectives that are in play in creativity research. Along with a discussion of the array of definitions used for creativity, the questions were used to develop a conceptual framework for social creativity, which is presented in the form of a concept map.

The usefulness of this article's inquiry to the fields of human resource and organizational development, adult learning, and management lies in the potential it offers for a richer understanding of creativity at work. Creativity in the workplace is acknowledged as being an area of increasing concern to the human resource field because of the demands placed on the workforce and on the HRD professionals themselves (Waight, 2005). Applying a level of analytical mind-set to issues on HRD is an additional way to gain understanding of the distinctiveness and interplay between the different levels (Garavan, McGuire, & O'Donnell, 2004). The article also provides language that is potentially useful for future research as we add to our understanding of creativity in the workplace.

Problem Statement

Research on creativity has included investigations and theorizing about ways in which social domains influence individual creativity, and has also considered groups or organizations as the actors or agents to be analyzed for creative processes or behaviors. On the other hand, research has also considered the actions to take place in the individual as a cognitive process, between individuals as they interact, in groups or teams as a group-level event, or in the context of organizations. The research community does not have a conceptual framework to integrate who the agents are when creativity occurs and what the context is for their creative processes. Not having such a framework makes it more difficult to discuss what territory is being addressed by research, and potentially leads to misunderstandings. Because creativity research spans psychology, social psychology, sociology, adult learning, and organizational studies, having such a framework and related vocabulary for use in identifying which set of actors and contexts are being explored by researchers is a useful typology or classification system.

The use of this framework can also help in identifying gaps in the literature that are not as fully explored as other sectors of creativity research.

Method

A literature review was carried out for evaluating the sectors of creativity research that have been represented in published research. Reviewing the literature has the benefit of drawing from an extensive body of knowledge to synthesize a new perspective (Torraco, 2005). In this case, the evident emergence of interest in creativity as a phenomenon based in the social world and studied across a variety of research fields has resulted in literature without any shared definitions or commonly accepted terminology for use as units of analysis or as the loci for creative processes. Indeed, even the phrase social creativity is variously used, as mentioned above.

The article is structured conceptually as an inquiry into how research has understood the actors and their sites of action when creativity occurs. The point of view fundamentally has to do with human resource development in organizations, so the primary focus is on processes that appear relevant to understanding how people, groups, and organizations engage in creativity in the workplace.

Available literature in the form of books and journal articles was reviewed. Creativity is a word that appears in a variety of fields, including cognitive psychology, social psychology, organization theory, group dynamics, and adult learning. Because the intent was to explore using a range of perspectives, book titles from both theoretical perspectives and practitioners' perspectives were consulted.

Journal indexes were searched using Pro-Quest, ABI/Inform, ScienceDirect, Academic Search Premier, Psych Abstracts, and other index search engines, such as JAKE. Search terms were *social creativity*, *team creativity*, *group creativity*, *creative collaboration*, *organization and creativity*, and *organizational creativity*. In addition, searches were conducted for journal articles by authors whose books or book chapters appeared to be relevant. Reference was also made to sources recommended by reviewers of an earlier draft of this article.

Literature on empirical research and on conceptual development of creativity concepts was consulted. Publication dates from 2000 onward were searched, with subsequent searches reaching back to the 1990s and 1980s.

There is a significant quantity of published material on creativity in individuals, groups, and organizations. For example, a search of the general ProQuest index for "creativity" yields more than 17,000 hits. To organize this mass of published knowledge, a qualitative approach to research was used to make sense of the available literature. Although no specific coding schemes were preselected, in the interest of revealing researcher bias (Janesick, 1998), it should be noted that this author approached the research from the orientation of human resource development and, more particularly, adult and organizational learning. The author's motivation for conducting this literature review was both raw curiosity and as preparation for field research on creativity and learning within groups.

Although it could be conceivable to create codes based on academic discipline, with cognitive psychologists in one group, organization theorists in a different group, and organization behaviorists recommending how to get more creativity from teamwork in another group, not much new information would come to light through this coding technique. Instead, the effort was spent to look for ways to discriminate between the ideas. Although the findings will be discussed in a later section of this article, a short explanation of the coding process is provided here to review the methods used.

One example of an obvious category for coding purposes was research that examined traits of creative people who operated independently. The actor or agent of creativity was the individual and the site of engagement for creativity was again the individual. Other categories were less obvious. For example, a set of categories was developed to separate individuals who work in groups, but create or operate independently, from those who work in groups and create through joint action. What initially appeared to be research articles in the same vein were actually providing considerably different answers to the questions of who or what creates and in which sites of creative action the processes occur. In this example, the site of creative action for both categories was groups. However, one posed the individual as the agent or actor and the other posed the social unit itself as the agent of creative outcomes.

Because the outcome of this research involves some subtle distinctions, a visual display to facilitate the discussion holds appeal (Miles & Huberman, 1994). In particular, a concept map (Novak, 1998), which is presented in a later section of this article, serves as a representation of the ideas contained in the research. One virtue of using a map is that it permits metaphorical reference to sectors or territories within which researchers operate.

Definitions

It will not be without controversy to say that there is such a thing as creativity that occurs outside the individual minds. For example, Runco (1999) cautions that "intrapersonal contributions are absolutely necessary" (p. 237), because, no matter how domains evaluate creative efforts, in his view there is nothing without the creative behavior of individuals. Simonton (2003) rues a backlash he terms "sociocultural reductionism," which has arisen in response to the tendency to focus on creators as individuals. The backlash he refers to ties the individual to context and has "inspired an antithetical conception of creativity as an exclusively societal-level event" (p. 304).

Regardless of whether one deems it possible to generate new ideas in societal-level or collective units of analysis, such as teams, the phrase social creativity itself is problematic, as discussed in the introduction to this article.

"In contemporary culture, no idea is so appealing, no word is put to more frequent and more varied use than *creativity* [italics in original]" (Barzun,

1989). The construct of creativity, especially slippery when it comes to definition, has a tendency to slide into the tautological trap: creativity is what a creative person does.

Broadly, definitions of creativity encompass subideas of originality and fit (Runco, 1999). The concept of originality includes novelty, new ideas, and previously undiscovered constructions. Fit includes ideas such as appropriateness, value, subjective acceptance, social usefulness, or appeal.

A selection of definitions for creativity or creative thinking is offered in Table 1 to depict a range of approaches to the complex idea of creativity. Definitions have been selected to reflect the diversity in language used by researchers who were involved with different settings or who operated from different disciplines. They are organized alphabetically by the author. Orientations are discussed following the presentation of definitions. The different conceptual stances on creativity point to the ongoing interest in the concept of creativity from many points of view. There is no consensus on what is meant by creativity or on the units of analysis that execute creation.

Person, Product, Process, Press, Place, and Persuasion Perspectives on Creativity

As is evident in the definitions of creativity or creative thinking (Table 1), aspects of creativity emerge as perspectives on creative outcomes (product), characteristics or tactics of creative individuals (person), habits or patterns that underlie it (process), or the interpersonal impression that convinces others that something is creative (persuasion; Simonton, 1988). There is also often a recognition of an environment (place; Taylor, 1988).

The basic "Ps" typology of person, product, process, persuasion, and place, or press distinctions, is a way to identify the central idea in a definition or research approach to creativity, but it does not attempt to provide a model for understanding connections between any of these factors. How, for example, would an act of learning in an idea generation workshop (process) in an organization (place) affect its environment (place), the creative capabilities of the participants (person), the quality of the idea outcomes (product), and the acceptance of the ideas within the firm (persuasion)?

Expanding or unpacking the "person" portion of this typology, it becomes possible to answer the question of who creates, with the following: the single individual who engages in creativity, the small group, the social unit such as a team—perhaps even the organization. Each of these or combinations of these is a potential research focus and could be deemed as the actor or agent of creative outcomes. Interestingly, once the organization becomes an explicit focus, then the "place" portion becomes overlapped with the "person." For instance, research looking at creative changes in organizations (e.g., Drazin et al., 1999) holds the organization as both actor and environment. This is worth noting because there could be questions about how creativity happens in the entity

TABLE 1: Definitions of Creativity or Creative Thinking

<i>Definition and Orientation</i>	<i>Author</i>	<i>Setting/Use</i>
"Creativity is simply the production of novel, appropriate ideas in any realm of human activity." (Product orientation)	Amabile, 1997, p. 40	Social psychology of creativity
"Creativity [is] the process of engagement in creative acts , regardless of whether the resultant outcomes are novel, useful or creative." (Process orientation)	Drazin, Glynn, & Kazanjian, 1999, p. 287	Creativity at individual, group, and organizational levels
"I define creativity as a domain-specific, subjective judgment of the novelty and value of an outcome of a particular action." (Product and persuasion orientation)	Ford, 1996, p. 1115	Creativity by individuals influenced by many social domains
"Work creativity is seen as the process by which an individual produces a novel and appropriate solution to a work-related problem." (Process and product orientation)	King, 1995, p. 83	Work organizations
"[C]reativity is an act of persuasion , [as] individuals become 'creative' only insofar as they impress others with their creativity." "It emerges as a particular type of leadership ." (Persuasion orientation)	Simonton, 1988, pp. 386-387	Creativity viewed in social terms
"Creative thinking [is] the process of sensing difficulties, problems, gaps in information, missing elements, something askew ; making guesses and formulating hypotheses about these deficiencies; evaluating and testing these guesses and hypotheses; possibly revising and retesting them; and finally communicating the results." (Person orientation)	Torrance, 1988, p. 47	Cognitive psychology laboratory research
"Team creativity . . . involves the shared development and application of ideas that help society in adaptive ways." (Product orientation)	West, 1995, p. 71	Creative change in organizations
"Organizational creativity is the creation of a valuable, useful new product, service, idea, procedure or process by individuals working together in a complex social system ." (Product and place orientation)	Woodman, Sawyer, & Griffin, 1993, p. 293	Creativity that occurs in an organization

NOTE: Keywords are marked in bold in the above table.

that would be quite different from what happens in an individual process. On the other hand, it could be that individual efforts and “work groups’ creativity aggregates to become organizational creativity” (Drazin et al., p. 300).

It is also suggested that “creativity is an act of persuasion, [as] individuals become ‘creative’ only insofar as they impress others with their creativity. . . . It emerges as a particular type of leadership” (Simonton, 1988, pp. 386-387). This process of judgment is also stressed by other researchers (Csikszentmihalyi, 1988; Feldman, Csikszentmihalyi, & Gardner, 1994; Ford, 1996). Containing the insight that it is not an idea itself that is creative, unless a social process of judgment deems it to be, these perspectives add another dimension to the social aspect of creativity.

Yet another definition has its focus on the process of creativity. “Creativity [is] the process of engagement in creative acts, regardless of whether the resultant outcomes are novel, useful, or creative” (Drazin et al., 1999, p. 287). Although refusing to be drawn into a debate on whether an idea was creative because it did or did not become an innovation, this definition permits examination of how creativity arises in big or small ideas, ideas that evaporate or those that take hold, ideas from individuals, from small groups, and from organizations themselves. A potential value of this process orientation is that it enables questions to be raised about the daily acts of creativity, about the many small ongoing acts that solve practice problems, and about those acts that aid in implementation of initiatives, instead of concentrating solely on ideas that radically transform or those that result in major innovations.

There are several conceptions of creativity that fit well with a definition like the one just cited. For example, there is the idea of average creativity which acknowledges that in conducting creativity research, studying outstanding people who have been defined as creative “means that those whose creative achievements are comparatively small or infrequent are discounted” (Kilbourne & Woodman, 1999, p. 131). Ignoring what can be understood through exploration of these creators dismisses entire populations who are engaged in creativity (Amabile, 1995). An example of everyday creativity is that of a clever rework on windshield-washer jets, an ingenious design by a worker with a truck manufacturer in India. Instead of requiring one person inside a truck and another outside for adjusting the trajectory of washer fluid, the worker, with assistance from others, devised an extension to the control arm so the work could be done by one person (Robinson & Stern, 1997). Maintenance creativity is enacted to enrich and create environments like homes and offices. It creates contexts and it keeps things going. Because of its association with what had been stereotypically characterized as women’s work, it is not generally highlighted for recognition. It points to the existence of sustained creativity that occurs through normal activities, including work (Purser & Montuori, 1999).

A particularly stimulating idea of what constitutes creativity recognizes that rediscovering an existing idea on one’s own may only be original to the thinker and not a new contribution to knowledge. This ordinary creativity, however,

can change the thinker, who will have learned, discovered, and perhaps opened up a new capacity for creativity. These virtually invisible moments are pervasive and essential, because everyday complexity requires adaptation, rediscovery, improvisation, and learning (Bateson, 1999). This form of creativity implies that learning is the mechanism or process for a creative outcome.

Seeing creativity arising in commonplace situations places a challenge on research to look beyond its dedicated focus on creative genius or breakthrough ideas. Exploring alternative ways of recognizing creativity in play enables a more expansive interpretation of the concept itself. In addition to the many small acts becoming acknowledged, those that come about through engagement in practice within organizations, regardless of outcomes, come into view.

Although concepts of creativity are reflected in definitions, it is also an interesting challenge to consider the relationships among the orientations just discussed. If one considers a product orientation, then it is still important to have a grasp of who is creating and what qualities he or she brings to the process (person orientation). For example, the quality of ideas that come out of groups (product) is dependent on attention and reflection (person characteristics; Paulus & Yang, 2000). Likewise, if one poses a how (process orientation) question in research, then information on who (person) or where (place) are also key factors to consider. The example described below is from Drazin et al. (1999). Their process orientation looks at "how individuals . . . take creative action in . . . situations or events that are complex" (p. 287). This description is oriented to a process that is carried out by individuals in complex contexts, bringing in orientations to process, person, and place. It is perhaps only on the traditional person-as-sole-creator stance that it is possible to set the other orientations aside. Even at that, with the shift to the social that was discussed in the introduction to this article, social variables are increasingly taken into account in research and it is even common to include a process inflection along the way. For example, Amabile's (1995) call for a systems approach comments on attending to person and situation "interactions and feedback cycles throughout the creative process" (p. 425). Feedback cycles are process explanations.

Although a convenient typology, the "Ps" scheme is not rigidly applicable, and attempting to overlay it on researchers' statements of their approach, as per the examples above, reveals propositions that encompass many of the orientations. The following section develops a conceptual framework that makes reference to the "Ps" scheme, focusing on person, place, persuasion, and product. The framework is presented as a concept map and is also discussed as a set of sentences that reflect research orientations to creativity.

Social Creativity Conceptualized

Review of the creativity literature, as described in the Methods section of this article, led to the codes or categories that described the research orientation. For the "who or what creates" question, four categories emerged. They

are, first, the purely individual, independent actor as creator and agent—the creative person. Second is the individuals who interact with other individuals, with situational variables or within a system, and then either create as independent actors or produce outcomes that have been influenced by the interaction. Third, the actor is the social unit, such as a team. Fourth, the actor is the organization. Both team and organization are collective-level agents. The concept map organizes the results. It provides a structure for a sample of views on the actors who create and the sites believed by researchers to be where actors’ creativity occurs. It organizes concepts present in the literature into a map that shows aspects of process, person, product, persuasion, and place, along with vocabulary for the creative outcomes that are the product of individuals, groups, and organizations.

The concept map uses a pattern that connects concepts with linking words. The basic structure reads like a sentence with alternative paths for completion of the sentence. It identifies the creative actor and proposes a name for the type of creative outcome that is produced. In this way, the map is able to illustrate the levels involved while taking into account the questions of who or what creates and in which site the action occurs. Discussion of the contents of the concept map follows (see Figure 1).

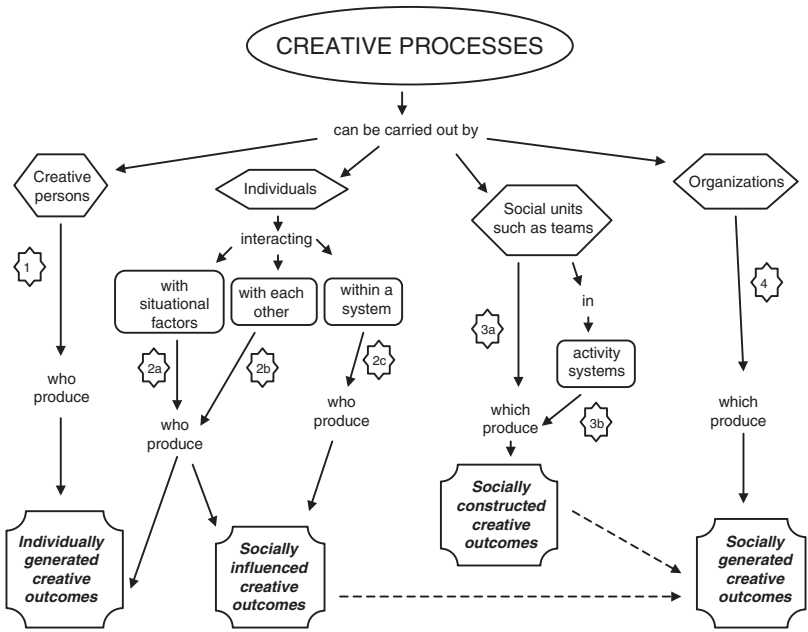


FIGURE 1: Social Creativity Concept Map

The map will be discussed by tracing each set of arrows and restating them in sentence form. After the information in the map is converted into text, representative authors for each of the actors, sites, or processes will be discussed.

The map begins with "Creative processes can be carried out by" and goes on to complete the sentence in different ways. The map reflects the typology of person, product, process, persuasion, and place discussed in the context of creativity and creative thinking definitions provided earlier in this article. The first step of the map completes the initial idea by identifying the "person" or actor(s) involved in creating. Four possibilities are offered, which are as follows: creative persons, individuals, social units such as teams, and organizations. Additional details are offered for the category of the individual because the sites of engagement or the context for individuals involved in creativity is a key factor for distinguishing between various research streams. For individuals, they either interact with each other, with situational factors, or within a system. After the actor is identified, the mode of creativity he or she produces is named. Four names are offered for the type of outcome he or she creates and are reflective of the "product" portion of the "Ps" typology. The four names are as follows: individually generated creative outcomes, socially influenced creative outcomes, socially constructed creative outcomes, and socially generated creative outcomes.

The complete set of sentences concerning the actor and what he or she produces is given below. For ease of discussion, the sentences are assigned numbers in parentheses, which will be used during subsequent discussions of the map and its propositions. Sentence (1): Creative processes can be carried out by creative persons who produce individually generated creative outcomes. Sentence (2a): Creative processes can be carried out by individuals who interact with situational factors and produce individually generated creative outcomes or socially influenced creative outcomes. Sentence (2b): Creative processes can be carried out by individuals who interact with each other and produce individually generated creative outcomes or socially influenced creative outcomes. Sentence (2c): Creative processes can be carried out by individuals who interact within a system and produce socially influenced creative outcomes. Sentence (3a): Creative processes can be carried out by social units such as teams which produce socially constructed creative outcomes. Sentence (3b): Creative processes can be carried out by social units such as teams in activity systems which produce socially constructed creative outcomes. Sentence (4): Creative processes can be carried out by organizations which produce socially generated creative outcomes.

Each sentence will now be discussed with reference to the authors whose work can be identified as reflecting the particular perspective being presented.

Sentence (1): Creative processes can be carried out by creative persons who produce individually generated creative outcomes. This mode is reflective of the work of creativity researchers who investigate the traits or characteristics of creative people. Examples of such research are *Creativity and Divergent*

Thinking (Baer, 1993) and *Psychological Characteristics of the Literary Genius* (Hale, 1995). Creativity occurs in the individual and is analyzed in the unit of the independent actor or psychological self. This is the cognitive or individual psychology approach. Research attempts to identify what creativity is, how it can be understood, how it can be measured, and how it can be enhanced (Sternberg & Lubart, 1995). In this position, a widely held proxy or relevant skill of creativity is divergent thinking. Divergent thinking is distinguished by a wide variety of ideas (flexibility), unusual ideas (originality), a large number of ideas (fluency), and the ability to develop or embellish ideas (elaboration; Baer, 1993). A list of the individual characteristics of the creative genius include, among others, a tendency to challenge orthodox thinking, the ability to identify problems, ideational fluency, flexible cognition or the capacity for divergent thinking, a compulsive discipline and ability to work hard, a high tolerance for ambiguity, and an ability to engage in extreme concentration (Hale, 1995). The focus in this perspective is on individual psychological traits. It implies that by understanding these traits it is possible to predict and increase the personal quality of creativity.

The second agent, Sentences (2a-2c), identified in the literature is the individual. The individual may or may not be a creative person but is involved in creative output in organizations. The psychological self is still the actor but is situated or operates with external influences. In Sentence (2a), the external influences are situational factors. In Sentence (2b), the individual interacts with other individuals. In Sentence (2c), the individual actor operates within a system.

Sentence (2a): Creative processes can be carried out by individuals who interact with situational factors and produce individually generated creative outcomes or socially influenced creative outcomes. As in Sentence (1), the individual actors are still the ones who ultimately create. Creativity is posited as an individual event, but in this view it is influenced by situational factors. Authors in this territory include Amabile (1988, 1996, 1997), Woodman & Schoenfeldt (1990), and Woodman et al. (1993). Environmental factors such as access to sufficient resources or encouragement by management are explicitly included, and the individual operates in a real-world context. Amabile's componential theory of creativity and innovation in organizations (1988, 1997) examines both the individual and the environment for a comprehensive model. Individual qualities necessary for creativity are domain-relevant skills or expertise (resources), creativity-relevant skills or creative thinking skills (techniques), and intrinsic task motivation. Together, these qualities of an individual or members of a small group predict creative outcomes. They do not operate in a vacuum because the work environment affects individual creativity through its effect on motivation. The organizational components include organizational motivation to innovate, resources in the task domain, and management practices or skills in innovation management.

Woodman and Schoenfeldt (1990) regard creative behavior as a "complex person-situation interaction" (p. 284). The individual personality, with traits

and cognitive abilities, is affected by and affects the context within which he operates. Part of the contextual influence is how the environment does or does not nurture creative abilities of the individual. Woodman et al. (1993) work from the perspective of interactional psychology that traces the source of creative action to the individual, but with the caveat that "human behavior is best understood as a product of both person and situation" (p. 314). "Organizational creativity is the creation of a valuable and useful new product, service, idea, procedure, or process by individuals working together in a complex social system" (p. 293). The organization is where participants and factors interact for creative output. With feedback loops and reciprocal causation, there is a dynamic exchange that occurs between people and the situation. Because concern with levels of analysis is a feature of this literature review, it is interesting to note that "Group creativity is not the simple aggregate of all group members' creativity, although group creativity is clearly a function of the creativity of individuals in the group" (p. 304). There is a focus on the individual as creator, but with a shading of group-level agency. The organization itself does not create, it influences individual and group processes through culture and managerial practices.

Another example of research that regards the agent as the individual personality, but places him or her in a context, is an empirical study by Oldham and Cummings (1996). They found that employees who wrote more patent disclosures and who were rated as creative produced the most creative work when they had creativity-relevant characteristics, worked on complex, challenging jobs, and were supervised in a noncontrolling, supportive way. This research specifically includes both the individual and the influence of the environment on the individual's creative output.

The creative outcomes for the authors in the (2a) stream can be either individually generated or socially influenced. Although social influence is explicit in their models, it is still possible that the individual fortuitously had the knowledge, drive, and ability to independently generate new ideas. This is not to say that the individual is a castaway on a tropical island, removed from the social world, but it could be possible to trace an idea back to the individual. However, it is much more likely that the individual's production of the new idea would have been socially influenced through an interactive process.

Sentence (2b): Creative processes can be carried out by individuals who interact with each other who produce individually generated creative outcomes or socially influenced creative outcomes. As in Sentence (2a), the individuals are the actors. It is not until Sentences (3) and (4) that the collective is the generator or actor that produces creative outcomes. The (2b) stream is another subsector in the intersubjective territory. A key author, John-Steiner (2000), proposes the concept of creative collaboration. Although still housing the creativity in the individual, she emphasizes the importance of relationship in collaborative groups. One of her examples is Pablo Picasso and George Braque, whose mutual influence aided in the creation of the new mode of cubist

thought (p. 68). Another example is the four authors of *Women's Ways of Knowing* (Belenky, Clinchy, Goldberger, & Tarule, 1986). Relationships are foundational to creative outcomes. Working together in collaboration stimulates and develops individual creativity. Whereas creativity is still a product of the individual actor, the action of working together is a generative stimulus. The interaction is seen as a part of the dynamic field or site of engagement in which selves create. In creative collaboration "we learn from each other by teaching what we know" (John-Steiner, 2000, p. 3).

Four patterns of collaboration have been identified. Within each pattern, there are characteristic ways by which people work and learn together for generating new ideas. *Distributed collaboration* is found in long-term partnerships as well as conversations at conferences. Participants have similar interests and have informal and voluntary roles. Interactions are spontaneous. *Complementary collaboration* is the most widely practiced. There is division of labor based on expertise or discipline, such that rich cross-fertilization from differing perspectives occurs. Not only do the jointly negotiated tasks get accomplished, the creators also engage in "mutual appropriation" (John-Steiner, 2000, p. 199) through which each person adapts and integrates the other's ideas. The *family collaboration* pattern, characterized by fluid roles, can encompass one member helping another to move from novice to expert. These collaborations have some duration and are capable of change as each participant takes on different responsibilities. Finally, *integrative collaborations* thrive on shared vision and risk-taking over the long term. They value the creation of new, perhaps transforming, visions. Roles are intertwined and engagements can be sustained and intense with emphasis on cocreation.

Another form of interaction between individuals is social networking. Perry-Smith (2006) uses social network theory to consider the intersections of "creativity-relevant cognitive processes and domain-relevant knowledge" (p. 86). Networks are where social interactions occur, which improve the individual's knowledge and ability to generate feasible ideas. Having loose ties to many other individuals in different social circles enables access to a greater variety of information and diverse perspectives. These weak ties therefore contribute to greater ability to grasp subtle differences suggested by alternative solutions to problems. Social relationships stimulate a more expansive view and raise the potential for making unique connections between ideas. There are additional network influences, such as access to stimuli outside the organization and recognition of the value of a position at the edge of a node, at which point there is less exposure to standard ways of thinking. For a creative individual, being part of a social network is a source of information and stimulation.

Authors who research groups also fit in this territory. A distinction is necessary between a group and a team. Work groups that meet to hash out issues and do not have a commitment to purpose are gatherings of individuals. Teams, on the other hand, operate as a collective. In groups, individuals are the actors. In teams, individuals are still the members but the output is generated

by the team (Greenberg & Baron, 2003, p. 292). Authors who consider the social unit itself, such as teams, to be the agent of creativity are discussed in Sentence (3a).

Jung (2001) investigated the effects of transformational and transactional leadership styles on creativity by the group members. The individuals create, but they operate in interaction with others. Participants were asked to brainstorm for the purpose of problem solving and were led by confederate leaders who had been coached in leadership styles. Results of the participants were evaluated for divergent thinking, fluency, and flexibility. Data on solutions and leadership styles were evaluated, and the result was that the transformational style in the nominal groups generated the most creative solutions. Leadership is recognized as a social influence, both directly through communication and indirectly through establishment of work environments. It is also recognized that considerable social influence occurs within groups. The focus of Jung's study is the effect of social influence and leadership on individual creativity that occurs in groups.

Paulus and Yang (2000) investigated the influence of group process behaviors on the extent of idea exchange within the group. The study was conducted with three types of groups, one control and two with variations in instructions. Rather than speaking ideas out loud, participants in the two types of groups engaged in "brainwriting" (p. 79); that is, exchanging ideas by circulating written pages. Performance was evaluated on the basis of the number of unique ideas. Participants then completed questionnaires about their perception of their own performance and feelings. The greatest number of unique ideas occurred in the group engaged in brainwriting idea exchange through writing.

The presumption is that the ability of participants to pay attention to others' ideas and to consider them, rather than having to respond verbally and quickly, facilitated the generation of ideas; that is, it facilitated creativity. In this view, individual actors who operate within groups can experience greater creativity as individuals because of participation. The group itself does not have any identity or function as a unit of analysis. This study asks questions about the effect of group behaviors on what the individual self creates.

Creative outcomes for authors in the (2b) stream, as for those in the (2a) stream, can be either individually generated or socially influenced. Social influence through various forms of collaboration, networking, or group interaction is central to their thinking, but it is again possible for the individual to independently create.

Sentence (2c): Creative processes can be carried out by individuals who interact within a system and produce socially influenced creative outcomes. This sector represents authors who look closely at the "persuasion" aspect of creativity.

Feldman et al. (1994), for example, are concerned with understanding creativity as a function of the self as embedded in a system. The person, the domain, and the field "jointly determine the occurrence of a creative idea, object or action" (Csikszentmihalyi, 1988, p. 329; Feldman et al., 1994, p. 21). A domain is a body of knowledge that a person can alter through his or her

work in that domain. Creativity is the domain's assessment of the individual's work. If the domain agrees that a person's work is indeed creative, then it can be so adjudged. Creativity is contextual. A field comprises the group of people who can affect the body of knowledge. As gatekeepers, they can buttress or extend the boundaries of the domain. It is only by understanding the person, domain, and field together that a focus will emerge to explain the generation and validation of an act as creative. An example of a system approach is Gardner's (1988) case study of Sigmund Freud. Viennese cultural qualities in the late 19th century, the extant knowledge domains, and the personality of this major creative author are the three systems in play. This holistic approach acknowledges the considerable impact of societal and scientific community influences on Freud's creativity.

Recognizing the importance of interacting domains, Ford (1996) integrates insights from psychology and sociology to capture the interaction of actors and the situations in which they operate. He posits a "behavior episode" (p. 1120) as the unit of analysis that merges personal actions and sociological events. The dynamics of domains that judge, as well as the competing interests in organizations, influence the creative product that is the result of such episodes. Domains with the potential for affecting individual creativity are numerous—groups and organizations, as well as institutional environments and markets. Of greatest importance, the domains influence each other in a mutual fashion. Ford's theory has a stated goal of integrating creativity research and innovation research, and stresses the tension between creative action and habitual or routine actions as the contexts exert influence on creators and judge the outcomes. He gives the example of New Product Development meetings and design sessions in which individuals interact in settings more typically studied by sociologists. For example, individuals who seem to be personally interested in being creative and are therefore intrinsically motivated can be influenced in their desire to create by the domains' legitimization of their creative pursuits.

Creative outcomes for authors in the (2c) stream, in contrast to the outcomes for authors in (2a) and (2b) streams, are socially influenced, but not individually generated. Because it takes persuasion of a system or alteration of a system to pass judgment on whether an outcome is creative, creative outcomes are a priori socially influenced. As Csikszentmihalyi (1988) explains, "[W]hat we call creative is never the result of individual action alone; it is the product of three main shaping forces" (p. 325), which are the social institutions that select what is worth preserving, the cultural domain that transmits new ideas, and the individual who brings about a change in the domain.

The sentences in Streams (1) and (2) of the concept map represent a view that the individual is either the producer or a key actor and he or she engages in creativity through his or her interaction with situational, interpersonal, or systems variables.

Sentence (3a): Creative processes can be carried out by social units such as teams which produce socially constructed creative outcomes. The collective is the agent of creative action and the site of engagement is group work.

Authors in the (3a) territory include Kylan and Shani (2002), who report on an action research project that focused on interaction patterns in teams, as well as on performance and creativity. In this study, teams participated in interventions to evaluate whether the teams could move from committee, basic assumption groups, into rational working groups with innovating style and engaged in creative interaction. Social skills that support assumption-challenging and encourage active inquiry and connection to values were developed through exercises. The interventions resulted in an improvement in interaction patterns, although not in all treated groups. Creativity was not measured as an outcome because it was believed that understanding and altering team interaction patterns would result in improved creativity.

Barlow (2000) suggests that in team creativity a “shift in perspective or paradigm can be seen as the essential and defining phenomenon of creativity” (p. 104). Interestingly, taking the shift as the actual act of creativity, not the idea generation itself, he points to the “aha” experience as the validation that creativity has occurred. He states that if a team’s viewpoint “shifts to a new viewpoint that the group ‘knows’ is closer to the real problem” (p. 106), then the team can be said to have been creative. By deliberately working to discover problem statements that better reflect the problem, teams in his research “more quickly achieved advantageous insight” (p. 113).

Kasl et al. (1997) also refer to the moment of a group “aha” (p. 240). Although their study was focused on team learning, not specifically team creativity, they found that teams were capable of an interdependent, collective synergy and synchronous insight. Teams initially perceive an issue, transform that perception, and test the resultant hypotheses. The group learns actively together, acquiring collective memories within a set of favorable conditions. Processes include action, reflection, collective problem definition, and the treatment of group work as malleable and capable of reframing and experimentation. The result, at times, is the capacity for team creativity, a creative outcome that is constructed by the team itself.

Sentence (3b): Creative processes can be carried out by social units such as teams in activity systems which produce socially constructed creative outcomes. Engestrom’s (1999, 2001) expansive learning theory explores another team-level means for developing creative outcomes. As with the team learning research cited above (Kasl et al., 1997), this research is not specifically a creativity theory, but offers a way to understand how teams create. The perspective is activity theory, which involves a subject making an object through interaction with mediating artifacts. In the case of innovative work teams, the subject is the team itself, which generates a collective new object through interaction with existing knowledge. Structural tensions within activity systems stimulate contradictions and efforts to create innovative solutions. “The creative potential of activity is closely related to the *search actions* of object construction and redefinition [*italics in original*]” (Engestrom, 1999, p. 381).

Construction of objects “does not happen in a solitary manner or in harmonious unison. It is a collaborative and dialogic process” (Engestrom, 1999, p. 382).

Instead of a group “aha,” as mentioned by Barlow (2000) and Kasl et al. (1997) in the (3a) territory, Engestrom (2001) states that the new objects of the collective learning cycle “are reconceptualized to embrace a radically wider horizon of possibilities” (p. 137).

Authors in the (3b) sector take the social unit as the creator and more specifically place the creative work in an activity system, which is a distinct theory stream.

Sentence (4): Creative processes can be carried out by organizations which produce socially generated creative outcomes. It should be noted that the term *organizational creativity* is as problematic as the term *social creativity*, as discussed earlier in this article. For example, Basadur, Runco, and Vega (2000) pool individual, group, and organizational creativity into a three-phase process that does not attempt to isolate differences in how creativity would be defined or operationalized for the different levels. Using the levels of analysis orientation that underlie the thinking of this article, the focus for discussion at the organizational level draws from theorists who pull the levels apart to explore differences in dynamics or processes across and between the levels. Drazin et al. (1999) deliberately focus on all three levels of analysis: the actor, the actor in interaction with others, and the larger social unit itself. In their view, the organization has the capacity to create. By using all three units of analysis, they are able to trace the evolution of individual creativity (intrasubjective) and group creativity (intersubjective) to organizational creativity (collective). Distinctly, this view does not say that rising through the levels represents an increasing aggregation, accumulation, or sum of the parts. It says that the end point is more than the sum of the parts. The authors remark on the tendency in creativity literature to assume that “the creative process is alike at all levels of analysis—that is, for individuals, groups and organizational systems” (p. 288). Although recognizing the interdependence between individuals and communities, the authors acknowledge the separation of the individual actor and of the larger social unit. Organizational creativity is a change in meaning that is arrived at through negotiations between communities, often as a consequence of facing a crisis. Through sense-making and interpretive processes, the individual and group levels interact for creative outcomes at the organizational level.

In a similar vein, but with a primary focus on the shift in viewpoint or problem redefinition, Barlow (2000) also posits changes in assumptions as evidence that organizational creativity has occurred. “Ideas that require the organization to change its definition of a problem would seem to be more profoundly creative” (p. 107). Although his main interest is creativity at the team level, he elevates that which a team creates to organizational-level creativity if, for acceptance, it requires an organization to shift its perspective.

For Sentence (4), the nuances are not about whether creativity occurs in the minds of individuals or through the influence of environmental or systemic factors. They are about what constitute creativity when looking at an actor that is so large. An organization that is highly creative would be one that has many large changes in assumptions or viewpoints and would have processes that accomplish such changes.

In the concept map, the phrase for creative outcomes that come out of organizational-level processes is socially generated creativity. Dotted lines connect to it from socially influenced and socially constructed creativity. The dotted lines reflect the presence of creative outcomes produced by individuals in social contexts and by collective social units, such as teams, in organizational-level socially generated creative outcomes. It would naturally take the work of individuals interacting with each other, with environmental or situational influences or within systems, as well as collective-level work, to alter meanings or perspectives at the highest level. The dotted lines also emphasize that organizational creativity is not simply an aggregate of work done at the individual and group levels and that each level could be expected to have different processes in play as they create.

In summary, the authors in Sentences (3) and (4) have a distinctly different view of the nature and process of creativity than those in Sentence (1). Authors in Territory (1) are dedicated to understanding creativity as a personality function. The contrast is striking when compared to the final Sentence (4), which encompasses and preserves the individual but imagines a different way of understanding the expanding levels of analysis, including the production of creative outcomes by individuals, groups, and the organization.

Organizing creativity research by comparing the actor and site of engagement in creativity contrasts the conceptual framing of theorists. The intellectual traditions of creativity research draw from many disciplines, and although it is critical to understand individuals, they form just one of the units of analysis to be considered if the context is organizations.

Implications for Research

There are several important implications for research that stem from this literature review. Turning to the concept map of social creativity, a method for identifying research areas is to follow the arrows; that is, to look for areas where there are no arrows or where they point in only one direction.

There is no arrow from individually generated creativity (the product of creative persons) to socially constructed creativity (the product of social units). The research community has considered many ways in which the social world influences individuals, but we know relatively less about how individually generated creativity, or the creative person, influences creative output in groups. Sample questions for research could include the following: Does greater individual fluency with ideas lead to more group ideas or does an individual's capacity for divergent thinking enable problem redefinition by groups?

There is no arrow returning to individually generated creativity from the other modes of creative outcomes. However, a part of the multilevel systems thinking is feedback and feed-forward loops (Crossan et al., 1999). Does an individual become more creative when he or she is a participant in organizational or group creativity? Does being a part of a group that has experienced perspective shifts "arouse the creative potential which lies, often untapped, in most intelligent

people” (Gordon, 1956, p. 50)? Or as Hennessey (2003) comments, “But the question of how an individual’s intrinsic task motivation and task enjoyment might be influenced by interaction with others has been virtually ignored” (p. 184).

We know little about what makes loops, or transitions between levels, possible. What is the linkage and what are the factors and processes that enable the arrows from socially constructed (group level) to socially generated (organizational level) creative outcomes? A conjecture is that further insights into the transitions between levels will come from the literature on learning. Some examples include organizational learning (Popper & Lipshitz, 1998), informal learning (Marsick & Watkins, 2001), and expansive learning (Engestrom, 2001), which links the individual to contexts and has a focus on problem finding.

Learning more about what occurs within the levels and not just between them is also an area that is ripe for future research. A process model (Mohr, 1982) for team creativity that furthers the knowledge of factors, motivation, and conditions for team creativity (Watson, 2005) would be illuminating and would have practical application.

In regard to implications for practitioners, several of the research ideas outlined above could translate into operational models that would be extremely useful for HRD professionals. For example, knowing more about how teams create, or how being involved in organizational creativity influences the individual, could lead to programs that would improve performance. In other words, there are practical implications that would emanate from research.

For practitioners, having a fuller understanding of how creativity unfolds in organizational settings has the potential for improving interventions through training, designing of reward systems, or providing support for individual, group, and organizational creative skills.

Conclusion

This integrated literature review has examined a selection of published knowledge about creativity, in particular social creativity. The intention of mapping the knowledge landscape was to organize and conceptualize it in regard to who the actors are and in which sites of engagement they create. By doing this, it was possible to create a vocabulary for the creative outcomes produced by individuals, individuals interacting, teams, and organizations.

Creativity is abundantly worthwhile to explore. It is the hope of this author that providing a conceptual framework of the research will stimulate many creative discussions.

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