Bringing Creativity Into Being: Underlying Assumptions That Influence Methods of Studying Organizational Creativity

Mark Taylor
Jamie L. Callahan
Texas A&M University

We compare different epistemological frameworks for the effective collection of creativity data. We suggest that researchers' epistemological approaches can significantly influence collection methods and subsequent outcomes. Classic sociological epistemological approaches—functionalism, interpretivism, radical humanism, and radical structuralism (Burrell & Morgan, 1979)—are used to categorize definitions of creativity. We provide an overview of methods used in extant literature on creativity and suggest that alternative approaches may be useful in studies of organizational creativity.

Key words: creativity, organizational development, evaluation/assessment/measurement

More than twenty years ago, Amabile (1982) noted that the concept of context, particularly that of organizational context, was scarcely mentioned in creativity literature. Today, however, organizational scholars recognize that creativity is a vital component for success in an environment marked by rapid change (Ford, 1995). Creativity as an aspect of physical, social, cognitive, and even spiritual development transcends the individual, group, process, and organization learning and performance domains. But, how do we know creativity when we see it? Perhaps more importantly for HRD professionals who propose to help develop creative capacity, how do we collect data regarding the existence and development of creativity? We suggest that effective collection of creativity data is dependent on the researcher's epistemological framework and definition of creativity; thus the way they define creativity can greatly affect data collection methods and subsequent outcomes. In this chapter, we use classic sociological epistemological approaches—functionalism, interpretivism, radical humanism, and radical structuralism (Burrell & Morgan, 1979)—to categorize different definitions of *creativity*. As organizations attempt to measure the effectiveness of programs or systemic changes designed to increase creativity that will lead to practical innovation and application, it is important to examine the frameworks that determine measurement techniques.

Paradigms framing the exploration of creativity

As explorations of creativity in organizations continue to increase, the breadth and scope of research has also expanded. With this expansion, however, creativity research in organizations has generally followed a rather narrowly constructed underlying set of assumptions regarding creativity. In this section, we describe a commonly accepted framework for epistemological paradigms of organizations (Burrell & Morgan, 1979) that can be used as a lens for understanding the nature and implications of creativity literature. Burrell and Morgan (1979) suggested that our study of organizations can be understood by views representing the intersection of two continua regarding underlying assumptions about the natures of social science and society. The distinction between subjectivity and objectivity drives our social science assumptions, while order versus conflict drives our assumptions about society.

Those who take an objective view of social science believe that the world is built upon regularities and causal relationships that can be identified and then verified or falsified by building a common stock of knowledge. The opposite on this continuum of social science assumptions is subjectivity. Those who take a subjective view believe that the social world is a relativistic context that can only be understood by those who are actively engaged in the phenomena of study. Assumptions about the nature of society range from an interest in issues of order and regulation to an interest in issues of social conflict and change. The order dimension is characterized by concerns with explaining the nature of social order and equilibrium—identifying the patterns of regularity that create and maintain order. The conflict dimension is characterized by an interest in exploring problems associated with conflict, coercion, and change. The intersection of these two continua results in four primary domains of study with respect to organizations—functionalism, interpretivism, radical humanism, and radical structuralism. Because of the broad nature of the underlying assumptions for this framework, theoretical perspectives that have gained more recent popularity, such as postmodernism and poststructuralism, can still be understood.

In their review of levels of analysis incorporated into creativity research, Drazin, Glynn, and Kazanjian (1999) noted that most studies of creativity in organizations fell into the realm of functionalism. Their own work was grounded in interpretivism. Functionalism and interpretivism are both concerned with regulation and order. Because the field of HRD generally deals with organizations, our tendency to focus on issues of order is natural. However, the calls for HRD to assume a greater role in fostering social responsibility (Hatcher, 2002) and in community and national development (McLean, 2002) require a consideration of theories of conflict and change. Thus, the following sections will explore creativity as it relates to each of the four paradigm quadrants that undergird studies of organizational phenomena, including an overview of paradigmatically relevant data collection methods for exploring creativity in organizations and implications for HRD.

Functionalism

The functionalist perspective is the combination of objectivity and order (Burrell & Morgan, 1979). Functionalists search for concrete empirical artifacts or relationships that can be identified, studied, and measured. This perspective tends to be highly pragmatic, with a concern for how the results of studies can be used to improve performance (Drazin, Glynn, & Kazanjian, 1999). Burrell and Morgan suggest that "this paradigm has provided the dominant framework for the conduct of academic sociology and study of organizations. It represents a perspective which is firmly rooted in the sociology of regulation and approaches its subject matter from an objectivist point of view" (Burrell & Morgan, 1979, p. 25). Since the functionalist paradigm is the approach traditionally associated with the gathering of data, it is not surprising the bulk of creativity definitions that exist fall within this paradigm. Simply put, "the functionalist approach to social science tends to assume that the social world is composed of relatively concrete empirical artifacts and relationships which can be identified, studied and measured through approaches derived from the natural sciences" (Burrell & Morgan, 1979, p. 26).

With regards to creativity, the majority of working definitions fall within the functionalist paradigm. J.P. Guilford's classic stage-based model is one such example, tying creativity to divergent thinking, or the ability to find as many possible answers to a particular problem and defining it in terms of the "creative act", which he said "involves four important steps" (p. 451) which he labeled *preparation*, *incubation*, *illumination*, and *verification* (Guilford, 1950). A number of other definitions have followed Guilford's stage-based model, including the definition of Amabile, who defined creativity as "the production of novel and useful ideas" (Tierney, et. al, 1999).

Within this paradigm, the *Torrance Test of Creative Thinking* is perhaps the most predominantly used means of collecting creativity data. Since we are asserting that the collection of creativity data is determined by how creativity is defined, it is not surprising that the Torrance Test of Creative Thinking is as multi-faceted as the definition to which it subscribes. Torrance defines creativity in a more lengthy way than the traditional, dictionary-based description. Merriam-Webster blandly defines *creativity* as "the quality of being creative", and defines *creative* as "marked by the ability or power to create" (Merriam-Webster, 2004). Perhaps the word *imaginative* is, in fact, the best synonym for *creativity*. Torranc, however, defines it as a "process of becoming sensitive to problems, deficiencies, gaps in knowledge, missing elements, disharmonies, and so on; identifying the difficulty; searching for solutions, making guesses, or formulating hypotheses about the deficiencies: testing and retesting these hypotheses and possibly modifying and retesting them; and finally communicating the results" (Torrance, 1974, p. 8). The definition is lengthy and complex in its attempt to encompass the somewhat abstract concept of creativity.

Scratchley and Hakstian (2001) define creativity in specific terms of *managerial creativity* (p. 367), which could perhaps be considered a subset of *organizational creativity*. The research cited here was "concerned with the development and identification of selection instruments that are effective predictors of on-the-job creative management behavior" and the definition developed to help assess managerial creativity defines it as "the production by a manager of new concepts, ideas, methods, directions, and modes of operation that are useful to the organization" (Scratchley & Hakstian, 2001, p. 367). Scratchley and Hakstian took steps to define managerial creativity narrowly in order to collect specific types of data, saying that: "Given our definition of creativity management, solid criterion measurement of both global and incremental idea generation, and general creativity, was required" (Scratchley & Hakstian, 2001, p. 372). The researchers also redefined the distinction in the literature between "radical and incremental innovations", replacing the word radical with global because the latter more accurately conveys the idea of fundamental change" (Scratchley & Hakstian, 2001, p. 372).

It is important to note the overlap in definitions of creativity, as there are definitions that examine the creative process as a means to a productive outcome, which puts such definitions within the functionalist paradigm due to the fact that they focus on quantifying and measuring creativity. For instance, Lubart's discussion of a creativity continuum involving "highly creative, moderately creative, slightly creative, and noncreative productions" (Lubart, 2001, p. 301) is concerned with the creative process, but only as it relates to a productive outcome.

Interpretivism

The interpretive perspective is the combination of subjectivity and order (Burrell & Morgan, 1979). Interpretivists are interested in understanding the nature of the world as it exists; because they believe that reality can only be revealed by those engaged in the experience, of creativity for example, interpretivists use methods that can capture subjective experiences of the individual participants. In fact, Burrell and Morgan argue that the interpretive paradigm in its purest sense "does not allow for the existence of 'organisations' in any hard and concrete sense…from the standpoint of the interpretive paradigm, organizations simply do not exist" (Burrell & Morgan, 1979, p. 260). The definitions of creativity that fall under the interpretive heading include both process-based and outcome-based definitions that are focused on the individual's experiences with creativity within the organization. Definitions that fall into the interpretive category, affirm the Burrell and Morgan assertion that the interpretive paradigm rejects the analysis of structures "independent of the minds of men" (Burrell & Morgan, 1979, p. 260). The interpretive paradigm will, however, allow for the concept of an organization insofar it is useful in helping individuals "make sense of their world" (Burrell & Morgan, 1979, p. 260).

This aspect of the interpretive paradigm is exemplified in the definition proposed by Drazin, Glynn and Kazanjian (1999). The authors define creativity in terms of a sensemaking approach saying: "In contrast to existing models, we define creativity as the process of engagement in creative acts, *regardless* of whether the resultant outcomes are novel, useful, or creative (Amabile, 1988, 1996; Ford, 1996). This process orientation focuses our inquiry on how individuals try to orient themselves to, and take creative action in, complex, ambiguous, and ill defined situations or events. In other words, creativity is very much about how individuals engage in sensemaking in organizations. By taking a sensemaking approach to creativity, these authors reject the more common functional outcome-based approaches and instead approach the topic through an interpretive lens.

Several other definitions of creativity fit within the interpretive paradigm, such as the *social innovation* definition proposed by Mumford, which calls creativity "the generation and implementation of new ideas about how people should organize interpersonal activities, or social interactions, to meet one or more common goals" (Mumford, 2002, p. 253). The emphasis on creativity definitions within the interpretive paradigm is primarily on the subjective elements as they pertain to the individual, the individual's interactions with his or her environment. Ford, for instance, holds a creative act view of creativity, defining it as "a context-specific, subjective judgment of the novelty and value of an outcome of an individual's or a collective's behavior" (Ford & Gioia, 1995, p. 17).

It is important to note the distinction Burrell and Morgan make with regards to the interpretive paradigm, namely that it is by nature highly subjective and qualitative. Therefore, a purely interpretive view of creativity will be concerned primarily with the *experiences* of the individual, or the creativity process, rather than the *product* of the individual's creativity, or the creativity outcome. In the Burrell and Morgan model, the interpretive paradigm is also closer to the sociology of regulation end of the continuum than the sociology of radical change end of the continuum, which makes this paradigm one of examining subjective experiences within the world as it currently exists. Of interpretive sociologists, Burrell and Morgan explain that "the commitment of the interpretive sociologists to the sociology of regulation is implicit rather than explicit. Their ontological assumptions rule out a direct interest in the issues involved in the order—conflict debate as such" (Burrell & Morgan, 1979, p. 31).

Radical Humanism

The radical humanist perspective involves the combination of subjectivity and change (Burrell & Morgan, 1979). Radical humanists argue that the consciousness of individuals is dominated by the structures in which they are embedded; therefore, radical humanists tend to study how individuals could be freed from this domination by gaining insight into the experiences of these individuals. Thus the radical humanism paradigm includes Marxism, existentialism, feminist theories, anarchist individualism, and other critical, primarily emancipatory theories.

There are few works that approach the construct of creativity from a radical humanist perspective. Rampley (1998) goes so far as to suggest that the reason is because critical theorists tend to see creativity as an ideological myth. This is likely because organizational theorists often seek to identify useful outcomes of creativity and, in so doing, erect boundaries that tame the chaotic nature of creativity. Prichard (2002) notes that artists and writers see creativity as 'inherently rebellious' and free of constraint. Prichard (2002) does, however, offer a few published definitions of creativity that are proposed from a radical humanist perspective. "Marxist and feminist works…tend to regard creativity as a bourgeois or masculinist myth. The creative person or those features associated with creativity—divergent thinking, spontaneity, novel behaviour, intrinsic motivation—are ideological or discursive ploys which fetishise the autonomous, often male, subject, and deny the complex historical, social and economic relations which precede and constitute such a subject, its practices and relations" (Prichard, 2002, p. 266).

Prichard (2002) also refers to D.H. Lawrence's suggestion that "creativity is inherently rebellious…Creativity as undertaken by artists, those 'enemies of convention', involves exposing us to raw reality" (p. 269). According to Prichard, humanism assumes creativity to be a "universal attribute and part of the make up of psychologically health human beings" and calls this view "a key underpinning basis of the discursive formation around creativity" (p. 270).

Radical Structuralism

The radical structuralist perspective is the combination of objectivity and change (Burrell & Morgan, 1979). Radical structuralists suggest that conflict is inherent in society and it is these conflicts that create social change. They tend to be interested in emancipation, structural conflict and inconsistencies, and deprivation. Like definitions of creativity associated with radical humanism, there are relatively few works associated with creativity from this perspective. They do exist, however. For example, because radical structuralism is concerned with 'structures', Ayn Rand's approach to creativity fits well within the radical structuralist paradigm. Rand argued that creativity is 'the power to bring into existence an arrangement (or combination or integration) of natural elements that had not existed before' (Binswanger, 1986, p. 109). This raises the radical structuralist notion of who has the power to foster creative structures. Another approach within this same paradigm is a study of organizational innovation by Ruef, who uses Schumpeter's definition of creativity as "innovation action", which he describes as "the novel combination of existing ideas and routines" (Ruef, 2002, p. 430). Ruef's study examines the structural networks associated with fostering entrepreneurship and innovation with a "framework that adapts existing ideas on the structural embeddedness of economic action…Generally speaking, the propensity among entrepreneurs toward innovation as opposed to the reproduction of existing ideas is seen to be a function of the types of social relationships those entrepreneurs are embedded within" (Ruef, 2002, p. 428). Rampley also utilizes a radical structuralist definition of creativity and methodology of examination, saying: "At the root of the question of creativity is the issue of how a set of rules or procedures, in short a symbolic order, can be semantically energized through new applications which esxtend its range of meanings, or which introduce suggestive ambiguities" (Rampley, 1998, p. 277). Though rare, radical structuralist perspectives on creativity such as those offered by Rand, Ruef, and Rampley provide a useful lens through which creativity may be compared and contrasted to other paradigmatic approaches.

Data Collection Methods Across Paradigms

As indicated earlier, most empirical studies of creativity have emerged from the functionalist and interpretivist paradigms. This has left a substantial gap not only in our broader understanding of creativity, but also in the methods we use to gather data about the construct. In this section, we explore a variety of data collection methods, some of which have been used to study creativity, some of which have not. Even the broad data collection approaches of 'qualitative' and 'quantitative' cross the boundaries of epistemological perspectives; so, it is not surprising that specific methods would be relevant to multiple perspectives. What ties these methods to a paradigm is the purpose or manner of data collection and interpretation. To account for the multiple perspectives associated with various data collection methods, we highlight data collection methods by *type* of method instead of by epistemological perspective. This section will discuss surveys and tests, observations, interviews, and alternative methods as they relate to the four paradigmatic perspectives. It is important to note that, while we present these connections as if they are associated simply with the quadrant or quadrants we suggest, we do this for analytic purposes only. The relationships of methods and epistemologies are certainly not fixed; and, indeed, just as there are different epistemological perceptions of a phenomenon, there are also different epistemological perspectives of methods.

Surveys and Tests

Traditional data collection methods that seek to quantify creativity—intelligence tests, trait and personality assessments, associative memory testing—fall well within the functionalist paradigm. Personality and intelligence testing, and measures of divergent thinking, including brainstorming, similarities, and associations exercises, are often components of functionalist data collection using surveys and tests (Scratchley & Hakstian, 2001, p. 370).

The most common and well-validated creativity test is the Torrance Test of Creative Thinking. Like other similar measures of divergent thinking, it is comprised of verbal and figural exercises that measure creativity by assessing fluency, flexibility, originality, and elaboration through varied tasks and activities. The test was developed on the basis that "if one accepts the definition of creativity that the author has proposed, it becomes possible to recognize creative behavior, creative thinking abilities, and creative potential through both test and non-test procedures" (Torrance, 1974, p. 10). The tests are designed to serve as a measure of interventions such as training.

In HRD, functional approaches such as the Torrance Test(s) are useful in helping teachers/trainers assess an individual's current level of creativity at a specific point in time, which can then be contrasted with their level of creativity at a later point in time to assess change. The differences in the types of divergent thinking assessed by these forms shed light on the complexity of human cognition, and the vast, untapped potential of the human resource that organizations desperately need to tap into. Other functionalist survey and test approaches run the gamut of associative-memory studies (Gruszka & Necka, 2002) to objectivist examinations of intelligence, personality and openness on workplace and managerial creativity (Scratchley & Hakstian, 2001).

For instance, Shalley and Perry-Smith (2001) used questionnaires and "in-basket" exercises to examine the effects of controlling versus informational types of management evaluations on employee creativity. Similarly, Carlsson (2002) used objective testing to examine the effects of anxiety and defense mechanisms on creative output. Kaufmann (2002) used the Sternberg-Lubart stage-based model to study creative writers, and Coren (2001) used physical measures of visual acuity to examine how visual stimuli impact creativity. Stokols, Clitheroe, & Zmuidzinas (2002) used self-reporting instruments to study social predictors of perceived support for workplace creativity. Kaufmann and Vosburg (2002) used quantitative instruments to examine the effects of mood on idea production. Moss (2002) used word problems to examine the impact of failure indexes in the incubation phase of creativity. Gruszka & Necka (2002) employed word association/pairing exercises to study the relationship of associative memory to creativity, and Reid and Rotfeld (1976) used surveys to examine an associative model of advertising creativity. Scott and Bruce (1994) used structural equation analysis to examine a path model of innovation in the workplace. Scratchley and Hakstian (2001) utilized personality and intelligence tests, along with openness scales, to examine managerial creativity. These studies are among the overwhelming majority of creativity research studies that use traditional quantitative methodologies within a functionalist paradigm to collect creativity data. There are also scant examples of creativity data collected through traditional quantitative, survey-type means and analyzed within other paradigms. Ruef (2002), for instance, utilized micro data analyses from surveys of entrepreneurial teams to look at structural and cultural predictors of organizational innovation using a Radical Structuralist paradigm. And Golann (1962) used a combination of quantitative instruments to examine creativity motives in artists using a Radical Humanist paradigm. Other methodological approaches to data collection include methods that are traditionally qualitative in nature, such as observations, use of archival data, and interviews.

Observations

Observations can take many different forms, but they all have the same basic purpose. They provide an in-depth description of a setting, what occurred in the setting, and what individuals were present in the setting (Patton, 1990). In general, we think of observations is classic terms of ‘traditional’ and ‘participant’ observations. But we can also be more creative in what constitutes an observation; we can think of observations in terms of photographs, sketching, videotaping, or any other mechanism that allows us to visually record a given setting. Observations would be relevant for capturing information about creativity regarding any of the four paradigmatic perspectives; the type, purpose, and interpretation of the observation are the guiding factors that differentiate the various perspectives.

Observations have been used to explore creativity from multiple epistemological perspectives. Csikszentmihalyi (1976) used observation in his seminal interpretive study of art students, which found that “stages of problem definition and problem solution need not be compartmentalized” (Lubart, 2002, p. 298). And as early as the 1930s, Patrick utilized observations to test the strength of the functionalist four-stage model of creativity (Lubart, 2002, p. 296). There are some generalizations that can be made about how different types of observations may be related to the various epistemologies. Traditional observations would be most affiliated with the functionalist perspective. A trained observer takes field notes while watching a setting and tries to maintain as removed from that setting as possible. However, such observations could also be associated with the radical structuralist perspective because the focus is on the objectivity of the observer as she collects data. If the observational data is gathered in such a way that it serves to explain the current state of creativity as a mechanism to improve productivity, for example, the observation would be functional in nature. If the data serves to identify differential patterns of creativity across structural boundaries of the organization, the observation is more likely to be from a radical structuralist perspective.

Conversely, participant observations involve engaging the observer as a member of the setting in order to gain firsthand experiential knowledge about the setting (Patton, 1990). This is a subjective way of knowing and, therefore, would be more aligned with interpretivism or radical humanism. An interpretive approach would call for the observer to engage in sensemaking about what was occurring in the setting, to understand what constituted creativity within the community. Radical humanism would call for the observer to identify power relationships that fostered or inhibited creativity within the group; the observer would be looking for signs and symbols that might highlight the extent to which creativity was stifled or encouraged. In short, a focus on power distinctions and modes of domination is radical humanist, while a focus on making sense of individual experience is interpretive.

Interviews

Interviews can be done either individually or in groups (i.e., focus group interviews) and they can be very formally structured or very loosely structured. Because there is so much variation in the way interviews can be conducted and interpreted, interview techniques for data collection also span the four paradigms. One example would be how Calwelti, Rappaport, and Wood (1992) utilized interviews to examine “simultaneity of processes” in creativity from an interpretivist perspective. Another example is Hirschman’s (1989) utilization of interviews to study role-based models in the advertising creativity process using an Interpretivist paradigm. Structured interviews about creativity traditionally fit within the functionalist perspective. A good example is a study by Gluck, Ernst and

Unger (2002), which used *free responses* and content analyses to study how creatives define creativity.

Structured interviews about creativity traditionally fit within the functionalist perspective. However, they can also be utilized as a radical structuralist assessment tool, depending on the nature of the questions, especially as both paradigms are located on the *objective* side of the paradigm model. Semi-structured interviews, on the other hand, are well-suited for exploring creativity within the *subjective* paradigms (interpretive and radical humanist). This type of interview encourages participants to expound upon their own insights and experiences. Focus group interviews can take on characteristics of both structured and semi-structured interviews. What makes focus groups particularly useful for creativity research is that the creative process often occurs in the interplay of teams (ref). Focus groups could be considered radical structuralist, for example, if group participants were selected from a stratified sample and asked questions relevant to issues of structural dynamics of the creative process. Alternatively, a focus group could capture interpretive dynamics of collective creativity experiences if project teams constituted the focus group.

One type of interview technique that is particularly well-suited to the radical humanist perspective is the Narrative Assessment Interview (NAI) technique (McCollum & Callahan, 2002). The NAI was designed to capture an individual's perception of their personal growth as a result of some type of incident or intervention. The NAI consists of two rounds of audio taped interviews that have a heavy emphasis on the use of metaphor to foster participant reflection. After the second interview, the researcher plays back the audiotape from the first interview and then asks the participant to reflect upon the changes in self that have occurred between the first and second interviews. Because the assumption of this data collection technique is based on the development of self-awareness, an underlying creativity assumption would necessarily be that creativity is enhanced as individuals become more self-aware. This self-awareness assumption fits well with the concept of radical humanism.

Another radical humanist type of approach to creativity data collection might be the use of photography. McCoy and Evans (2002) have used functionalist-oriented rankings of photographed environments to assess the potential effects of the physical environment on creativity, but the use of photos to allow creatives to convey their own meanings of creativity is a radical humanist method that has not yet been reported. The emancipatory nature of having research subjects develop their own interpretation of creativity data fits well within radical humanism.

Written and Archival Approaches

There are alternative approaches for consideration in the process of collecting data about creativity that do not necessarily fall cleanly into the classic categories of surveys and tests, observations, or interviews. Written approaches can take the form of archives, creative outputs, or journals. Archives—from news articles to philosophical discourse—can fall into any of the four paradigms of viewing creativity, although it is far more likely that archives will lend themselves to the objective perspectives of functionalism and radical structuralism. Using a radical humanist paradigm, for instance, Prichard (2002) conducted a critical examination of creativity in management discourse by analyzing texts from Fortune Magazine's reporting of Apple Computers founder, Steve Jobs. Mumford's (2002) aforementioned use of recorded data on Benjamin Franklin is an example of this technique within an interpretivist paradigm, and Rampley (1998) used critical analysis of philosophical works on creativity, originality and innovation, employing examples from philosophers like Kant and Wittgenstein, to examine the effects of rule-following on creativity using a radical structuralist paradigm.

Creative outputs may also be considered archives, but they are a particular type of archive that may or may not be 'written'. Instead, they are tangible evidence of the result of a creative process and may very well become part of a data collection effort. Because creativity is the object of study in all paradigmatic definitional approaches, these outputs could be relevant to all four perspectives. However, creative outputs are most likely to be used in conjunction with other data collection methods. Similarly, other written data sources, such as reflective journals, encourage participants to engage in subjective insights about self or situation and, as a result, are more oriented toward interpretivism or radical humanism. On the other hand, report-type journals are designed to more objectively capture information about a priori data. Studies in which participants are asked to journal their creative activities or thoughts when they receive a page or cell phone call are good examples of such data collection. This type of approach would be more aligned with functional or radical structural approaches.

Implications for HRD Theory, Research and Practice

Human resource development as a profession has much to gain from the study of creativity in organizations, and much to offer organizations with such research. Where traditional management approaches have focused on functionalist approaches, we challenge HRD to shed additional light on creativity issues using alternative methodologies suggested by other paradigms. The concepts presented in this chapter have multiple implications for HRD theory, research, and practice. Clearly, the study of creativity has been largely confined to the functionalist and, to some degree, interpretivist paradigms. However, this constraint seems somewhat counterintuitive—the study

of creativity from the perspective of order and regulation. Why are studies of 'releasing' creative genius or empowering creativity so infrequent? The influence of sociological paradigms on creativity data collection is evident in the examination of the examples listed in this paper. In general, we argue that linking creativity to epistemological perspectives simply heightens our awareness that there are multiple ways to understand the phenomenon. In the study of organizations, scholarship and practice has, again, naturally drifted toward a single perspective—functionalism. The framework we have presented illustrates how various scholars have come to know creativity, and how some ways of knowing creativity have been largely unexplored. Naturally, this reveals a gap in the literature ripe for future exploration. In this section, we highlight some of those implications and pose some epistemologically relevant questions for explorations of creativity. Many of the implications arising from the concepts presented here can be discussed in conjunction with the continua that form the epistemological framework presented. Thus, we will use the concepts of objective/subjective and stability/change to frame our discussion.

Objective and Subjective

Collection of creativity data in the examples cited in this paper cover a broad spectrum of combinations of methodologies. Each study employs a means of data collection that is uniquely determined by the way in which the authors define creativity for the purposes of their particular study. In examining the methodologies used in collecting creativity data using a number of different creativity definitions, however, it is evident that the vast majority of creativity data collection involves quantitative methodologies. These range from the use of rating instruments and openness scales to intelligence and personality testing, word association exercises and content analyses of micro data. Of the major studies examined here, only a few utilize qualitative data techniques.

For HRD, one implication of the broad use of data collection techniques in creativity research may be that HRD researchers should consider even broader methods of data collection, and combinations of methods, especially in light of the epistemological options presented in the first part of this paper. A key role of HRD professionals may very well be to help organizations accept the not so tangible or measurable aspects of creativity and to look at more radical approaches to the concept of creativity. While much of the existing creativity research can easily be categorized into objective and subjective perspectives, questions for future research can still be addressed. For example, we might consider the following queries for study:

- How can we maximize creativity to benefit organizational performance?
- What are the component factors that foster creativity?
- How might we train employees in these creativity competencies?
- How does organizational context influence the way creatives experience the creative context?

Stability and Change

When studying creativity with respect to organizations, we tend to avoid those epistemological perspectives associated with radical change. This is not surprising since 'organizing', by definition, implies concepts of 'structure', 'integration', 'cohesiveness', and 'stability'. However, there are elements of change in even the most stable of organizations; failing to recognize, explore, and understand creativity from the perspective of change sidesteps a reality that is vital to organizations of the 21st century. As a result of our natural tendency to gravitate toward the *creativity to regulate* perspective, we tend to dismiss concepts associated with *creativity for radical change*. Our fascination with defining creativity and identifying how it can be fostered to enhance organizational goals highlights not only an emerging area of research, but also an interest in concepts of regulation. But, what might be some important questions about creativity that are associated with the 'top half' of the framework and how can we answer those questions? Some questions we might consider include:

- In what ways does creativity change organizations in either intended or unintended ways?
- What role does power play in the creative process?
- How can we remove barriers to creativity posed by issues of power and domination?
- What implications for creativity can be found in factors such as race, gender, sexual orientation, etc?

For HRD researchers, paradigmatic considerations drive methodology, and it is suggested that purposeful use of non-traditional methodologies that can be drawn from the interpretive, radical humanist, and radical structuralist paradigms may prove a useful contrast to traditional functionalist approaches. A variety of methodologies and paradigmatic approaches will be invaluable in seeking to understand issues surrounding creative individuals within organizations, the development of creativity within individuals and groups in organizations, and the development of creative organizations as a whole. More subjective methodologies drawn from paradigms that have traditionally been ignored in HRD may prove increasingly useful in collecting and interpreting data surrounding a topic that is generally considered to be highly subjective. Functionalist approaches to data collection may be enhanced with data collected via other methods, resulting in broader understanding of creativity for both individuals and organizations.

References

Amabile, T.M. (1982). *The social psychology of creativity*. New York: Springer.

Burrell, G., and Morgan, G. (1979). *Sociological paradigms and organizational analysis: Elements of the sociology of corporate life*. Portsmouth, NH: Heinemann Educational Books, Inc.

Drazin, R., Glynn, M.A., & Kazanjian, R.K. (1999). Multilevel theorizing about creativity in organizations: A sensemaking approach. *The academy of management review*. Briarcliff Manor: Apr 1999. *24*(2), 286-308.

Fillis, I. a. A. M. (2000). Modeling and measuring creativity at the interface. *Journal of marketing theory and practice, 8*(2), 8-18.

Ford, C. M., & Gioia, D. A. (Eds.) (1995). *Creative action in organizations: Ivory tower visions and real world voices* (1 ed.). Thousand Oaks: SAGE Publications, Inc.

Gardner, H. (1993). *Creating minds: An anatomy of creativity seen through the lives of Freud,*
Einstein, Picasso, Stravinsky, Eliot, Graham, and Gandhi. NY: BasicBooks.

Gruszka, A., & Necka, E. (2002). Priming and acceptance of close and remote associations by creative and less creative people. *Creativity research journal*, 14(2), 193-205.

Guilford, J.P. (1950). Creativity. *American psychologist*, 5, 444-454.

Harrington, A. (2003). Who's afraid of a new product?. *Fortune magazine*, 148(10), 189-192.

Hirschman, E.C. (1989). Role-based models of advertising creation and production. *Journal of advertising*, 18(4), 42-53.

Howard-Jones, P.A., & Murray, S. (2003). Ideational productivity, focus of attention, and context. *Creativity research journal*, 15(2,3), 153-166.

Knowles, M.S. (1998). *The adult learner*. Woburn, MA. Butterworth-Heinemann.

Lubart, T.I. (2001). Models of the creative process: Past, present and future. *Creativity research journal*, 13(3,4), 295-308.

McCoy, J.M. & Evans, G.W. (2002). The potential role of the physical environment in fostering creativity. Creativity Research Journal, 14(3/4) 409-427.

Merriam-Webster. (2004). Merriam-Webster on-line dictionary. http://www.merriam-webster.com. March 30, 2004.

Mumford, M.D. (2002). Social innovation: Ten cases from Benjamin Franklin. *Creativity research journal*, 14(2), 253-266.

Reid, L.N., & Rotfeld, H.J. (1976). Toward an associative model of advertising creativity. *Journal of advertising*, 5(4), 24-29.

Ruef, M. (2002). Strong ties, weak ties and islands: Structural and cultural predictors of organizational innovation. *Industrial and corporate change*, 11(3), 427-

Scratchley, L.S., & Hakstian, A.R. (2001). The measurment and prediction of managerial creativity. *Creativity research journal*, 13(3,4), 367-384.

Tierney, P., Farmer, S.M., & Graen, G.B. (1999). An examination of leadership and employee creativity: The relevance of traits and relationships. *Personnel psychology*, 52(3), 591-62.

Torrance, E.P. (1974). *Torrance tests of creative thinking: Norms-technical manual*, 1-79, IL: Scholastic Testing Service.