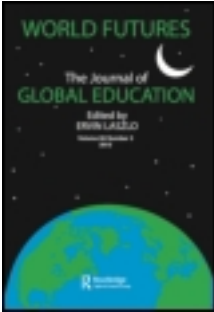


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CREATIVE INQUIRY AND SCHOLARSHIP: APPLICATIONS AND IMPLICATIONS IN A DOCTORAL DEGREE

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The doctoral dissertation is defined as an original contribution to a field. By definition, this makes the dissertation a creative product, and the result of a creative process. The creative process of doctoral work has historically not been highlighted. The same is true for education as a whole. While there is an increasing call for greater creativity in education, they remain aspirational. In this article we describe the underlying premises and some of the practices of a doctoral degree that has been designed with the intention of foregrounding the creative process.

KEYWORDS: *Complexity, creative inquiry, creativity, doctoral dissertation, education, narcissistic, postnormal, reproductive.*

INTRODUCTION

In the end, knowledge has to be about choices, and therefore about innovation, imagination, and possibilities. (Wallerstein 2004, 56)

There is increasing agreement about the importance of cultivating creativity for the future. Creativity is viewed as an essential competence for an age that is increasingly viewed as uncertain, complex, fast-changing, and even “liquid” or “postnormal” (Pink 2006; Robinson 2001; Bauman 2007, 2008; Briggs and Peat 1999; Florida 2002; Slater 2008; Sardar 2010). Creativity has become a central dimension of the lives of many individuals in the process of self-creation and self-re-invention (Bauman 2008; Florida 2002; Pink 2006). Ironically a parallel movement in education has increasingly stressed standardized testing and assessment at the expense of creativity (Amabile 2010; Florida 2002, 2004; Friedman 2009; Gidley 2010; Jensen 2001; Montuori 1989, 2011a; Robinson 2001, 2009; Sardar 2010). Educational systems from K–12 through doctoral studies show signs of a move away from creativity and toward “Reproductive Education” (Montuori 2006, 2011c). Reproductive Education is unsuited for the complex, networked

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twenty-first century where creativity and innovation are becoming essential in all areas of life.

Reproductive Education stresses rote memorization, proficiency at taking standardized tests, and the acquisition of established ways of addressing existing issues and problems in what is an essentially stable world. The assumptions of our educational systems are still squarely situated in the industrial age, and reflect its underlying machine metaphor, with its division of labor, specialization, and mechanical reproduction (Banathy 1987, 1992; Montuori 1989; Schön 1973; Thomas and Seely Brown 2011). Truly critical and creative thinking are largely ignored (Robinson 2001; Giroux 2007, 2010), as are dimensions such as authenticity and spirituality (Chickering, Dalton, & Stamm, 2006). Reproductive education also reproduces existing ways of thinking and behaving, replicates existing approaches to problems, as well as recreating the sociopolitical status quo and ideologies. It perpetuates longstanding oppositions such as knower and known, teacher and student, theory and practice, and is increasingly a process designed to ensure students can faithfully reproduce the material presented by the instructor for success in the final exam.

CREATIVITY AND THE PH.D.

The focus of this article is on the development of Creative Inquiry in doctoral studies. In doctoral studies, the culminating project is the dissertation, which is commonly defined as an *original* contribution to one's field (Montuori 2010a, b). By definition, therefore, the doctoral degree has as its final outcome a creative project. In doctoral studies the expectation is that the course of study fosters students' ability to become independent researchers in order to make such an original contribution (Association of American Universities 1998). It increasingly appears that in the United States this goal is often not being achieved. Lovitts convincingly argues that students are being prepared to be good *course-takers*, but not good independent researchers (Lovitts 2005, 2008). She contends that creativity is central to the development of independent researchers capable of doing original work, and that students are not being prepared to be creative.

A MUSICAL METAPHOR

Men and women confronting change are never fully prepared for the demands of the moment, but they are strengthened to meet uncertainty if they can claim a history of improvisation and a habit of reflection (Bateson 1995, 6).

A musical metaphor can illustrate the difference between Reproductive Learning and Creative Inquiry. Reproductive Learning is similar to classical Western music after 1800. The symphony orchestra, with its top-down hierarchical organization paralleled and arguably prefigured industrial factory organization (Attali 1985). Musicians learned to play their instruments to perform pre-existing musical

scores. Improvisation, or spontaneous composition, which was highly developed in both composers and musicians up to that time, became a lost art after 1800.

The root of improvisation is the Latin “*improvisus*” or unforeseen. Jazz prepares us for the unforeseen, both adapting to the unforeseen, and generating the unforeseen. The classical symphony orchestra prefigured the machine model of organization, and the source of creativity lies outside the “machine,” in the mind of the composer who “owned” the music through the score and the new copyright laws (Goehr 1992). In jazz, the music is the unpredictable emergent property of the interaction of the musicians who are composing in the moment through their improvisations in the larger context of a slowly evolving cultural canon of songs and forms. With the shift in 1800, surprises, and unforeseen notes were eliminated in favor of performance of the score. Indeed, audiences began to bring the score to follow the performance, and musicologists began to value the score above the performance.

Creative Inquiry is very much like jazz (Montuori 1996, 1997). Technical competence is required, but the purpose is to learn to develop the skill of *improvisation*, to learn to explore and generate musical themes alone and in collaboration with others. While reading musical notation for certain sections of the performance is often necessary, during improvisation there is no pre-established “right” set of notes for the musician to read, but rather an inquiry into the musical text (the song) and context (including fellow musicians, audience, etc.), which can be approached or framed in a plurality of ways to elicit and generate a plurality of meanings (Montuori 2003). Ceruti’s (1994) description of knowledge after Modernity has striking similarities to the approach of a jazz musician:

What emerges is a binocular view of becoming, a sort of perspectival perception of processes and forms. In order to develop this perspective, it is necessary to dissolve a problem and learn an art. What needs to be dissolved is the problem of the comprehensive and panoramic synthesis, in other words of a criterion for judgment that is acontextual and definitive, creating a synthesis of competitive points of view, and aims to separate the essential from the inessential, permanent and transitory, primary and secondary. What we can learn is the art of shifting our viewpoint, circulating among points of view, and the expansion of the context in which initial oppositions are located. It is the art of the traveler who, with his own motion lays down a path in walking, or the deciferer of hints who immerses herself in the context and interrogates what she encounters to decide what point of view is most pertinent in that particular moment of her history. (6)

The jazz musician has a much greater degree of discretion and actually contributes to the overall composition of the piece being created during the performance. This occurs most obviously with the solo, but also with the musician’s contribution to the arrangements and backing of the soloist. Much of the jazz repertoire consists of well-worn standards from the Great American Songbook that have been played by all the great legends of jazz, and yet they can be mined for more interpretations, and more remarkable performances (Berliner 1994). The process of collective improvisation brings forth a performance that can shed new light on the songs, the performers, and indeed on the listeners experience. At it best it rekindles the

passion that motivates further inquiry, further performance, further listening. The point is not to get the “right” performance and *end* the inquiry. Even if Coleman Hawkins’s performance of *Body and Soul* or John Coltrane’s *My Favorite Things* are classic interpretations that have made the song “theirs” and set a standard for the community, in the end there is no “ultimate” answer, no edifice of knowledge that must be built, block-by-block, but rather an exploration of a network of people, events, ideas, beliefs, and assumptions, and the way knowledge is always already embodied and created (Bateson 1995).

Following the analogy, education today, in the form of Reproductive Learning, generally prepares us *only* to follow the score. It does not prepare us to improvise and live without a score. From the perspective of the machine view, improvisation is what one does when the score is missing, misread, or some other problems has arisen. The *summum bonum* is following the score, and any deviation is an emergency measure at best. In jazz, improvisational virtuosity is perhaps the most highly prized quality of the music. There is a fundamentally different worldview underlying these two forms of music. Creative Inquiry proposes we can learn by comparing the education of jazz and classical musicians, and develop improvisational skills in learners.

KNOWLEDGE AND THE DISSERTATION

A widely accepted definition of creativity describes it as novelty in service of adaptation, both appropriate and useful (Barron 1999). Many doctoral students are unable to generate contextually appropriate novelty, and recent educational trends toward increasingly Reproductive Education are certainly not preparing them to do so.

A key indicator of the problems at the doctoral level is students’ inability to think of an appropriate research question, or to perform work that is heuristic rather than algorithmic, meaning work that involves more autonomy, flexibility, and ambiguity rather than spelled out step by step (Amabile et al. 1996; Lovitts 2008; Hennessey and Amabile 2010). This should not surprise us since the Reproductive Education system orients students to primarily follow directions and to be able to follow the instructor’s lead.

If students have been accustomed to Reproductive Education, they need to make a radical shift to overcome being simply good course-takers. In Reproductive Education, the instructor knows the correct answer, and knows how that answer should be arrived at. However, the dissertation is an original contribution to a field, and the culmination of a research process. Once again, by definition the outcome of this research process is unknown and so framing it as creative process can support students in successfully making this important transition. Inevitably this means that students have to engage in a process of unlearning, as well as learning.

CREATIVITY

The history of creativity as we know it today in the West is complex and interesting. The concept came to the fore during the Renaissance and blossomed with the notion

of genius at the beginning of the nineteenth century (Kearney 1988; Montuori and Purser 1995). Creativity was to be found almost exclusively in men of genius in the arts and sciences. It was, and continues to be, conspicuous by its absence in education. Creativity was not introduced in education for three main reasons. The first, following Descartes and Newton, is that the dominant metaphor for existence, from the Universe as a whole to organizations and individual persons, was the *machine*. In this machine metaphor, creativity was always *outside* the machine: outside the individual, outside the organization, and even outside the Universe itself, taking the form of external inspiration from “muses” or a “daimon” or a God, who set the Universe in motion after He created it (Kaufman 2004, 2008). The second reason is that science could simply not account for creativity. What it did know about it seemed too subjective too “psychological” in the days when psychology was not considered a bona fide science (Popper 2002). Creativity was not an orderly, law-like phenomenon, and therefore, from that perspective, seemingly random. For that reason it was outside of the domain of both what could and what *should* be explained by science.

Creativity was also being embraced rather unscientifically and indeed even mystically by the Romantic movement, which delighted in its mysterious nature (Kearney 1988; Stigliano 1999; Montuori and Purser 1995). The fact that creativity was hailed by the Romantics, precisely for being a phenomenon that could not be explained by science, did not help its status in the scientific and educational communities. Creativity was also not considered something that could or should be taught or even addressed in school, unless it was in the form of praising great men. It did not fit in with the mission of education, which was to prepare individuals to be good course-takers and then good order-takers, not potentially unruly, unpredictable, and most certainly disruptive independent thinkers.

So-called alternative education, an umbrella term that covers a wide range of educational approaches that arose out of a critique of what we call the Reproductive Education of machine model Industrial education, has often valorized creativity (Montuori 2011b). It came to the fore in the 1960s in a number of educational experiments, and mostly suffered from an excessively Romantic view in which creativity is understood as self-expression, and efforts were made to draw more extensively on the arts. Alternative education was a rejection of the perceived boundaries and limitations of Reproductive Education but all too often defined itself in opposition to it, and therefore also rejected notions of craft, scholarship, and immersion in history, tradition, and the research literature. While at times laudable and utopian, if charmingly naïve, the Romantic heritage of efforts to introduce creativity in the curriculum inevitably led to a backlash and a renewed emphasis on testing and assessment.

PUTTING CREATIVITY BACK IN EDUCATION

In this article we explore some of the underlying philosophical and pedagogical foundation of an online doctoral program whose foundational premise is that education can be viewed as a process of Creative Inquiry.¹ The program was designed

to both address and elicit creativity in students and faculty. The online Ph.D. attracts individuals who want to research a topic they are passionate about, in an innovative way, without being confined by traditional disciplinary boundaries (Montuori 2010a, b). Many of the incoming students are already faculty at universities teaching lower-division courses. The program offers them an opportunity to do research in an area and in a manner that reflects their maturity and capacities as well as their desire for innovation. The doctoral program started in 2005, and as of 2012 it admits between 20 and 30 doctoral students a year.

Creativity is central to the educational experience in this Ph.D., where the central focus is the dissertation research in its definition as an original contribution to a field. In the first semester, a core course entitled Creative Inquiry creates the essential frame by stressing the integration of the inquirer into the inquiry. This is essential for the creative process. The course invites the students to see themselves as shifting from being consumers of knowledge to creators of knowledge, and from spectators to knowledge to participants in knowing.

The course begins by inviting students to explore their own assumptions about academia, creativity, and inquiry. Much of this initial phase involves students developing an awareness of their own assumptions, comparing and contrasting them with their fellow students and with the research literature. There is much “unlearning” that needs to occur during this time because we find a number of recurring and very limiting assumptions about creativity, academia, and inquiry. Many of the problematic assumptions we find in students’ implicit assumptions about creativity can be traced back to the Romantic view. For students (as for the majority of the population) creativity is often associated either with largely unattainable Einsteinian genius, or trivialized to the point that everyone is creative, but basic standards are lost (Melucci 1994; Weisberg 1993). Creativity in this view is the result exclusively of “inspiration,” a function of what is popularly referred to as the “right brain.” This, in turn, leads to a splitting between inspiration and perspiration, “right” brain and “left” brain (McGilchrist 2010). The “left brain,” and consequently analysis, critical thinking, and immersion in the research literature are neglected or even demonized in the process of developing this romanticized creativity, which can be traced back to such Romantic concepts as genius without learning (Montuori and Purser 1995). The “left brain,” associated with analysis, rationality, and logic, becomes the “wrong brain.”

In the popular discourse, and the assumption of many students, creativity is also associated primarily with the arts. The term “creative writing” is for instance almost exclusively associated with writing fiction. This means that any writing that is done in an academic context, and any non-fiction writing, is therefore *by definition* not creative. Since doctoral students do most of their work in writing, that does seem to drastically reduced the opportunities for creativity. We have asked students all over the United States to discuss and give examples of creativity in academia, to name creative contributions and contributors to their field, and most students find this very hard. They are simply not used to thinking of creativity as something that occurs in academia. They are unclear as to what constitutes an “original” contribution to their field, and do not see their field as a locus for original work.

The first semester Creative Inquiry course, which outlines the nature of this shift towards independent research and draws on the now extensive creativity research, can be confusing for students brought up in educational systems that force them to obsess on tests and grades from an early age, often accompanied by the added stress of considerable financial strain (Kamenetz 2006). In the Creative Inquiry course, students explore what they are passionate about, with a view to developing questions that will pertain to their dissertation topic. The whole process of inviting students to get in touch with a topic they are passionate about, within the broad social science/humanities limits of the transdisciplinary degree, is designed to ensure that their work is intrinsically motivated. Intrinsic motivation is a key dimension of creativity (Amabile 1996; Robinson 2009). An instrumental focus on passing the test to get the grade to get the degree fosters extrinsic motivation, and unlikely to lead to much creativity, particularly if ultimately education centers around providing information that is already known to the instructor.

Students are introduced to the concept and practice of Creative Inquiry, and learn to differentiate it from Reproductive Education and Narcissistic Education. If Reproductive Education is a product of the industrial age, Narcissistic Education is an alternative form of learning that defines itself in opposition to Reproductive Education, in the same way that members of the Romantic movement identified themselves in opposition to the “dark Satanic mills” of Industrialization and the Machine, and in the same way that popular psychology embraced the “right brain” as the source of all creativity and rejected the “left brain” (Montuori 2011b, 2011c).

CREATIVE INQUIRY

Creative Inquiry integrates the learner and his/her experience, affect, and subjectivity in the learning process, and invites the exploration and unlearning of “reproductive” social and personal habituations that become unchallenged “givens” and thereby create implicit interpretive frameworks. Creative Inquiry also contextualizes and challenges learning. It situates inquiry in the social, cultural, political, and economic roots and matrices of knowledge, and explores the criteria by which some things are considered knowledge and others not, as well as the creative, constructive process involved in knowledge production. It therefore addresses the psychology and sociology of knowledge, as well the philosophy of social science.

While Reproductive Learning begins with the assumption that the learner is an empty vessel awaiting the delivery of correct knowledge from the instructor,² Creative Inquiry starts from an attitude of “not-knowing,” a willingness to accept the illusion of familiarity that covers the vast mystery of existence. Creative Inquiry hinges on the examination of one’s positions in the process of inquiry, and challenges fundamental and underlying assumptions that shape inquiry. The goal is not to conclude the process by having the correct answer, but to encourage a more expansive, spacious approach to inquiry that actually generates more potential inquiry and illuminates the creation of knowledge rather than stopping at the one “correct” answer. As in a jazz group, “band members” are invited to make

contributions that will make the overall sound of the band the most interesting and surprising. In the same way that band members can push a soloist to greater heights with a series of well-placed chords or percussive accents, or simply verbal encouragement, the object of these contributions is to push the dialogue to greater heights and to keep it going (Montuori 2003).

Creative Inquiry recognizes the limitations of knowledge and the opportunities for different perspectives, frames, and approaches. This involves an attitude of epistemological humility and fallibility that recognizes humanity's always partial and limited understanding of the world (Bernstein 1983, 2005). Even more importantly, it also recognizes that not-knowing is a fundamental starting point for creativity. The willingness to be open to the possibility that all knowers have a fallible interpretation of the world allows for the emergence of multiple alternative perspectives rather than the assumption of a fixed "given" world. Creative Inquiry encourages constant exploration and self-examination for attachment to positions, obsession with certainty and power, and a constant awareness of the threats of dogma and/or habituation. Above all, an attitude of not-knowing creates the space and openness for novelty to emerge.

Creative Inquiry does not accept the common binary opposition between creativity and rigorous scholarship suggested by the Romantic mythology of creativity. This mythology's assumption of "genius without learning," so popular in the West, was central to many of the problematic aspects of Narcissistic Learning (Montuori and Purser 1995). Understood in a wider perspective, the creative process requires and includes discipline, a foundation of skills, and immersion in the field, in the same way that a creative musician must practice scales and learn music theory. But these are not antithetical to creativity. On the contrary, the foundation in scholarship is essential in order for creativity to emerge (Dreyfus and Dreyfus 1986; Dreyfus 2004, 2009; Montuori 2011a, 2006).

Creative Inquiry stresses the importance of immersion and active participation in an ecology of ideas, in the existing discourse, literature, and research (Montuori 2005b). It also recognizes that embodied and embedded knowing is grounded in existing cultural, social and historical assumptions, theories, facts, and beliefs, and that any action in the world is based on, and in fact cannot occur, without interpretations of the world and specific situations. This knowledge is necessary for participation in both discourse and practice. For Creative Inquiry this knowledge, in the form of paradigms, theories, and so on, shared by communities of inquiry (fields, disciplines, research methods, and agendas), and bodies of knowledge, and the inquirer's own implicit assumptions and theories, is itself constantly the subject of inquiry, offering an opportunity to explore and understand the creation of knowledge, perspectives, positions, beliefs, theories, for purposes of wise and creative action.

MOTIVATION

Motivation can be thought of as a person's attitude toward the task they are engaged in. To be motivated, write Ryan and Deci (2000), means *to be moved* to do something. Amabile's (1996) research has convincingly shown that intrinsic

motivation is a key factor in creativity. Intrinsic means “from within.” Intrinsic motivation literally means that we are moved from within to do something. The intrinsically motivating factors can include fascination for the subject, enjoyment while performing the task, or a feeling of accomplishment. Extrinsic motivation is motivation that comes from outside sources. Financial incentives and social approval are examples of extrinsic motivation.

Creative Inquirers are intrinsically motivated because they have a passion for their subject, but also learn how to turn the process of research itself into something enjoyable. Creative Inquiry involves, among other things, reflecting on one’s attitude toward every dimension and aspect of inquiry, and finding ways to approach them creatively, as opportunities for learning and change.

A particularly interesting implication of Amabile’s research is that whether a task is intrinsically interesting to us or not is on some level a personal choice. It is an aspect of the *subjective dimension* of work. We can choose to find our particular task boring, or we can find something fascinating about it. A literature review becomes a rich and rewarding experience when performed with a creative frame (Montuori 2005b). It is possible to focus not just on the nature of the task itself (writing up one’s references does not strike most people as an intrinsically fascinating task, for example), but on the nature of our consciousness while we perform a task. If we are not interested in a task, we tend not to do such a good job. If our interest is in doing a good job, and working at our peak regardless of the nature of the task, we can actually “be moved” by the task. It is also possible to reframe the task at hand, from one that is desperately boring to one that is potentially exciting—finding a new way of performing the task, or finding something that we can learn while we do the task. Creative Inquiry can act as a frame that is generative of creativity—in other words, a frame that sees every aspect of inquiry as an opportunity for creativity.

PROBLEM-FINDING

Creative Inquiry involves engaging the unknown, the messy, the complicated, the complex, and attempting to understand and make sense out of it. Research by Getzels and Csikszentmihalyi (1976) shows that *problem-finding* as opposed to merely problem-solving, is central for creativity. This is a central characteristic of Creative Inquiry. Barron (1995) found that creativity involves a preference for asymmetrical forms over symmetrical ones.

Creative individuals have a positive liking for phenomenal fields which cannot be assimilated to principles of geometric order and which require the development or, better, the creation of new perceptual schemata which will re-establish in the observer a feeling that the phenomena are intelligible, which is to say ordered, harmonious, and capable of arousing esthetic sentiment. (155)

Complexity, asymmetry, disorder, the unknown, the unexplained and the edges of the paradigm become a source of stimulation and possibility, a challenge and an opportunity to create and make sense of the world in one’s own way. A preference for simple order involves an attempt to maintain equilibrium at all costs. Barron

writes that this equilibrium “depends essentially upon exclusion, a kind of perceptual distortion which consists in refusing to see parts of reality that cannot be assimilated to some preconceived system” (Barron 1995, 198–199). This leads to an increasingly closed view of the world, and the reinforcement of set ways of doing things, prejudices, and stereotypes.

Arlin (1990) highlights three more relevant characteristics of problem-finders:

- a) *Openness to the possibility and reality of change.* The willingness to remain open to change, and to information that may lead to change, points to an ongoing process of self-transformation rather than a static, fixed sense of self and world;
- b) *Pushing the limits, which at times can lead to the redefinition of those limits.* Change, and the detection of problems in the existing order can lead to pushing limits, whether cognitive, political, or personal. Pushing the limits also leads to a redefinition of those limits as the person develops a new understanding of what is and is not possible. This requires courage and the willingness to take risks, hence the title of Rollo May’s classic work on creativity, *The Courage to Create* (May 1975).
- c) *A preference for addressing core or fundamental issues and problems, rather than an exclusive focus on detail.* Creative Inquiry, with its ongoing challenging of assumptions and integration of the knower into the process of knowing, usually leads to core or fundamental issues even if these were not part of the original inquiry.

Creativity Inquiry involves an attraction to the unknown, a desire to navigate uncharted territories as an opportunity to gain a greater understanding of the world and of oneself. Barron has referred to this as the “Cosmological Motive,” or the desire to create one’s own world, and create oneself (Barron 1995).

In summary, Creative Inquiry’s approach to scholarship is radical, in the sense that it goes to the roots of what is meant by scholarship (and the Ph.D. dissertation, in this case); it is conservative, in the sense that it retains what it finds to be best in the traditions of scholarship; and it stresses novelty in the sense that it brings the parts and the whole together in new ways, and with a focus on the centrality of creativity and self-creation.

APPLICATIONS IN A DOCTORAL PROGRAM

As mentioned earlier, the integration of the inquirer into the inquiry is central to the development of Creative Inquiry. This is approached in a variety of ways. Most fundamentally, the educational journey is framed as a process of self-creation, or more accurately, following Morin, self-eco-creation (Montuori 2010a, 2010b), in other words, self-creation in context. Maslow’s distinction between *special talent creativity*, which involves the application of a special gift, for mathematics or the piano, with *self-actualizing creativity* (Maslow 1959) is also useful here. The latter involves self-creation, the application of creativity to one’s life so that one’s

life becomes one's creative process and product, a project also clearly connected to the work of Combs, Kegan, Gidley, Magolda, Perry, Wilber, and others in the developmental tradition (Baxter Magolda 2008; Debold 2002; Kegan 1982; 1998, 2000; Gidley 2010; Perry 1998; Combs 2009; Wilber 2007).

Research in developmental psychology offers some further insights into the move towards Creative Inquiry. William Perry's important work was based on 10 years of research on the way undergraduate students changed their thinking based on their college experiences (Perry 1998). For the sake of convenience, Perry's research can be summarized as presenting a three-stage model as articulated by Salner (1986).

The first of these stages is *dualism*. The student makes a clear distinction between the self and the external world. Knowledge resides in the external world. Knowledge is absolute truth, and learning involves searching for the appropriate authority. Any differences in perspectives are reduced to right-wrong, good-bad. The student rejects ambiguity because it suggests that the proper authority has not been found. This is the foundation and basic attitude of Reproductive Education.

The second stage is *multiplicity*. Perry's research suggests that the exposure to a pluralistic world breaks down absolute categories of right and wrong, as students begin to see there are many different perspectives, and a lot of "grey areas." Rather than believing in a single, absolute truth, the student believes that there are as many truths as there are people. The loss of the "right" answer swings the student towards the view that "anything goes," that all perspectives are "just a theory," and one is as good as the next. The self becomes a source of knowledge, and in fact there is a privileging of subjectivity. "You see it your way, I see it my way." An anti-authoritarian position also develops, as a reaction to the conformism of dualism. This lies at the heart of Narcissistic Learning, which privileges the self, subjectivity, emotion, and spontaneity, at the expense of tradition, scholarship, sources of authority, and history.

Perry's third stage is contextual relativism. It has some similarities to what we are calling Creative Inquiry. It emerges from an ongoing grappling with multiplicity, as well as the realization of the ultimate futility and arguably the nihilism of Narcissistic learning. If everybody is right—or nobody is wrong—how can we make any choices or commitments? Whereas dualism saw the source of knowledge as external and objective, and multiplicity as internal and subjective, contextual relativism reconciles the two in dialogue and appreciates the importance of context in making choices. It looks for knowledge in the interaction between self and world, as an ongoing inquiry.

Creative Inquiry also highlights a number of key concepts such as interconnectedness, the importance of context and paradox, and the perils of certain kinds of reductive and disjunctive thought when they become pernicious dichotomizing through scapegoating and "us versus them" thinking are also addressed (Montuori 2005a). Reduction and disjunction with a view to simplification cannot account for the complexity of an interconnected, interrelated, rapidly changing and uncertain world (Gidley 2007a, 2009, 2010; Gidley and Hampson 2008).

The importance of developing what Morin calls complex thought (Morin 2008), a form of contextual, “postdichotomous” thinking (Beech and Cairns 2001), similar to Perry’s contextual relativism, is stressed throughout the program (Alhadeff-Jones 2010; Montuori 2010a). Space does not permit a discussion of complex thinking and its relationship to the plurality of postformal and integral perspectives (Gidley and Hampson 2008; Gidley 2007b). Beyond instruction in the basic concepts, one way this is done is by encouraging students to see themselves as part of a larger network, a planetary culture and a scholarly discourse, rather than isolated atoms seemingly free of influences, a view all too common in individualist North-American students. Starting with a quotation from Martin Luther King about human interdependence and through a variety of readings and practices the students are encouraged to see themselves as part of an interdependent, interconnected planet and a (global) community of discourse and practice. Through readings in the sociology of knowledge they are also encouraged to see themselves as situated in a social and cultural milieu that in turn has implications for how they think and how they approach to research (McCarthy 1996; Collins 1998; Crespi and Fornari 1998; Morin 1994).

Complexity can also be the source of some confusion. In the United States creativity has historically been seen as a highly individual process. For some students it is initially very hard apply complex thought, which stresses interconnectedness, context, and interaction, to creativity because the mythology of the creative individual is so strong. Thinking about creativity therefore becomes an opportunity to practice the development of complex thought. Because of its systemic and paradoxical nature, creativity is a complex and arguably postformal phenomenon (Montuori 2011b), meaning that it requires a more complex systemic way of thinking to be understood. It has been argued that postdichotomous, postformal thought has a creative dimensions because it involves ill-defined problems and uncertain situations (Yan and Arlin 1999). Indeed, it may be the case that unless creativity itself is approached in a postformal way, its complexity will be lost, and popular misrepresentations and misunderstandings will continue. For instance, the paradoxical qualities of the creative individual, who is both rebellious *and* conservative, “crazy” *and* sane, passionate *and* objective, playful and disciplined, and of the creative process, divergence *and* convergence—will inevitably be mutilated in the process through being viewed as simple oppositions rather than complex, interactive, interconnected complementarities. “Creative people are crazy” is very different from the much more complex “creative people are both crazier and healthier.” Learning to think beyond dichotomizing is arguably essential to a complex understanding of creativity that goes beyond stereotypes.

Students entering a transdisciplinary doctoral program are invited to reflect on their research topic and how it relates to their life goals. This is an invitation to explore the complexity of their work and their educational journey. They are initially asked to explore *what* they want to do, *how* they plan to do it, for *whom*, and above all, *why* they are interested in the topic and want to pursue it. The assumption is that by embarking on the journey to their degree, the students should take the opportunity to reflect on the larger context of their work as they

are engaged in an enterprise that will have significant implications for their life and their career.

Students are specifically invited to explore what they are truly passionate about. Where and how do they want to make a difference in the world? What do they want to do? What can they hope for? What do they *allow* themselves to hope for? The Ph.D. dissertation helps to focus the students right from the start of the doctoral program, and leads them to think ahead as they go through the program. These projects are in turn put in the context of the student's life goals. The experience of finding one's passion is by no means always easy, and often leads to considerable introspection and struggling with self-limiting assumptions and beliefs. One's chosen topic is a reflection of what one values, what one wishes to become, and certainly of what one will be spending a considerable amount of time researching for the coming years. It therefore provides an entry point into more systematic self-reflection and exploration of values, beliefs, assumptions, about self and world, and about what is and is not possible, and how one makes meaning in and of the world.

Students are also encouraged to reflect on how their assumptions and beliefs are demonstrated in how they write their papers: what "voice" they believe they have to use (ranging from stiff hyper-academic, to excessively casual, etc.), what they consider to be acceptable topics for, and approaches to, research, and other ways in which they participate in the discourse. Students are encouraged to develop their "voice" as inquirers. This includes addressing the complexities of the requirements of different academic journals, their style requirements, openness to first person narratives, and all the vagaries of developing one's own voice in a way that is authentic and yet respects the demands of the publication, conference or more generally the context, nature and purpose of the discourse.

In addition, students are invited to see how they enter understanding in the middle of the hermeneutic circle where the already known always forms the basis for the yet-to-be known. How can students be asked to "inquire," let alone engage in *creative* inquiry when they are unclear about what creativity and inquiry are? When soon enough it becomes apparent that both creativity and inquiry are "contested," and there seems to be no agreement on what they "are," and that the term "original" is actually extremely complex, the stakes are raised. Part of the process involves showing students what they are already doing—the participatory dimension: it becomes clear that they come in with opinions and beliefs (some not conscious or explicit), forming opinions as they explore in their own way, making assumptions, stepping into the middle of things, confronting the literature, assessing a multiplicity of claims and perspectives, and having to organize knowledge, all the while embodying it as participants in the discourse and inquirers themselves. As they begin to inquire into creativity, they are invited to reflect on how they inquire, a process which in many cases is at first completely transparent to them.

Students are actively encouraged to cultivate the personal characteristics of creative individuals while they begin this somewhat unsettling inquiry. The characteristics include Independence of Judgment, Tolerance of Ambiguity and Complexity of Outlook (Barron 1988, 1995). If the students confine themselves to

quickly finding a “correct” answer and thereby relieve the anxiety (Devereux 1968) of not knowing the “right answer” by presenting an “expert opinion,” they are encouraged to cultivate their own Independence of Judgment and Tolerance of Ambiguity. They explore their own assumptions and compare the viewpoints of a variety of “experts,” all the while questioning what constitutes “expertise” (Wallerstein 2004; Code 1991). One way of developing Independence of Judgment involves making a conscious effort to not immediately accept established views, tolerate the ambiguity of not knowing, and developing a more complex outlook as they begin to see that in most fields there are a variety of perspectives, schools of thoughts, and methods. At the graduate level it is necessary to go beyond the security of “the one right answer” to grapple with the complexity of a plurality of views of the same problem and seeing uncertainty as an inevitable characteristic of inquiry. While this may initially be disconcerting, and can even lead to criticisms of the instructor who is expected to have “the right answer,” it is also an opening to creativity. It is precisely this sort of switch in perspective that is involved in the shift toward creative inquiry.

Tolerance of ambiguity is a particularly interesting characteristic because ambiguity can be extremely disturbing and anxiety-provoking for students who have increasingly been brought up in an educational climate where they are told exactly what they have to do, and how they have to do it, in order to get the right grade (Greenberg and Weber 2008; Strauss and Howe 2007; Wilson and Gerber 2008; Lovitts 2005). Graduate students are told they now have a much greater degree of discretion because, as Lovitts argues, a scholar must be “a producer of knowledge that often results from uncertain processes that take place in unstructured contexts” (13).

The basic concepts of Jungian personality typology provide an effective language to address the psychological dimensions of this process, particularly for students with little or no psychology background (Mitroff and Kilmann 1978). Using this framework, students also begin to explore the psychology of knowledge. They begin to see the extent to which it is possible to become attached to one’s view point, attached to ideas, to individual thinkers or intellectual trends, closed-minded about other approaches, invested in a particular position, and other ways in which one’s psychological dynamics play a part in the way in which we construct our understanding of the world (Morin 1986; Montuori 2006; Shepherd 2007; Devereux 1968; Diesing 1992).

The literature review, and more generally immersing oneself in the literature, becomes an opportunity to situate oneself in a larger ecology of ideas, in a community of individuals who also care about the same issues. In the process, one can develop one’s own perspective in dialogue with the literature and with one’s colleagues (Montuori 2005b). Our experience has been that many students see themselves as relatively isolated atoms addressing a literature “out there,” to which they are bystanders or outsiders rather than participants. A “participatory” attitude is encouraged in numerous ways, from participation in conferences to writing a book review of a recent work their field that is submitted for publication (Montuori 2010a). Students are urged to think of themselves literally as innovators, making an original contribution to their field. As part of their broader scholarship they

therefore are also become familiar with the research on creativity and influence, and the articulation, diffusion and implementation of ideas. For a more detailed discussion of the theoretical dimension of Creative Inquiry, as well as more detailed discussions of pedagogy and curriculum of the transdisciplinary degree, readers are referred to discussions elsewhere (Montuori 1998, 2005b, 2010a).

CONCLUSION

We have described some key elements of a doctoral program that is based on the fundamental premise that doctoral education should be a creative process culminating in a creative product. Creative Inquiry is an invitation to creatively participate in our common destiny, and in our community of destiny (Morin and Kern 1999). It is an invitation to learn, to embrace the complexity, difference, pluralism, uncertainty, and to approach life itself with an attitude of inquiry, rather than conform to pre-existing frameworks or recede into self-absorption. Creative Inquiry suggests there is an alternative to the closed system of a Reproductive Education, and the equally closed system of endless Narcissistic consumerism. Both are ultimately passive, and neither recognizes the human gift of creativity. If Reproductive Education privileges objectivity (in the sense of external authority) and community, and Narcissistic Education privileges subjectivity and individuality, Creative Inquiry invites us to explore who we are in community, where our beliefs originate, how we engage the process of knowing and of inquiry, and how we may collaboratively envision and create better futures for ourselves and those who are to come after us.

NOTES

1. The degrees in question, designed by the first author, is the online Ph.D. in Transformative Studies (TSD) in the Transformative Inquiry Department at California Institute of Integral Studies, in San Francisco, California.
2. Freire calls this the “banking” approach to education (Freire 2000).

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