Educating Leaders Who Make a Difference in the World

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When I set out to study creativity, in graduate school, I thought that it presented the most interesting intellectual puzzles I had encountered. Pondering the accepted definition of creativity in psychological science—the production of novel, appropriate ideas or solutions (Barron, 1968; Stein, 1974)—and the existing creativity literature at that time, I was thrilled by all there was to discover. What motivates people to come up with something novel and appropriate? What is the process by which they do so? Does their social environment make a difference—might an individual's creativity vary as a function of the social situation, even for similar tasks in the same domain? Most creativity research done by the mid-1970s, when I was a doctoral student, had focused on the personality traits and biographical details of people who had been widely recognized for their creativity (e.g., Cox, 1926; Gruber & Barrett, 1974; MacKinnon, 1965). The social psychology of creativity was virtually untouched territory, and I could not wait to explore it. My aim, at that starting point, was purely to publish papers in psychology journals aimed at other psychological scientists.

My initial experimental work exploring the influence of social factors on creativity was inspired by two sources. First, my graduate mentor, Mark Lepper, had recently published a ground-breaking experiment demonstrating the negative effect of contracted-for reward, an extrinsic motivator, on intrinsic motivation—the motivation to engage in an activity for its own sake because it is interesting, engaging, or personally challenging (Lepper, Greene, & Nisbett, 1973). My second source of inspiration was the reading I had been doing in the letters, diaries, and autobiographies of well-known creative individuals (e.g., Einstein, 1949; Dostoevsky, described in Allen, 1948; Wolfe, 1936), which revealed that even they had experienced periods when a focus on extrinsic motivators or constraints dampened their intrinsic motivation and inhibited their creative work. Slowly, I became convinced that this was the place to start my empirical investigations: understanding whether extrinsic motivators and constraints in the social environment could undermine creativity by undermining intrinsic motivation.

The series of experiments that followed, conducted with both children and adults, used a method I had developed for assessing creativity in social-psychological experiments; this *consensual assessment technique* required the creation of simple products that were then evaluated by judges familiar with products in that domain (Amabile, 1982). These experiments demonstrated that creativity can indeed be undermined by several extrinsic factors that also undermine intrinsic motivation: expected evaluation, surveillance while working, contracted-for reward, competition with peers, restricted choice in task materials, and a mere focus on extrinsic motivators. (See Amabile, 1983a, 1996, for descriptions and citations.)

These early findings all supported the *intrinsic motivation hypothesis of creativity*: Intrinsic motivation is conducive to creativity, and extrinsic motivation is detrimental to creativity. Because later studies showed that rewards can, under certain conditions, support intrinsic motivation and creativity (Amabile, Hennessey, & Grossman, 1986; Hennessey, Amabile, & Martinage, 1989; Hennessey & Zbikowski, 1993), my collaborators and I updated our initial theorizing and articulated the revised *intrinsic motivation principle of creativity*: Intrinsic motivation is conducive to creativity, and controlling extrinsic motivation (in which the individual feels controlled by the motivator or constraint) is detrimental to creativity; however, *synergistic extrinsic motivation* (in which the external factor confirms the individual's sense of competence or supports the individual's engagement in the activity) can be conducive to creativity, especially when initial levels of intrinsic motivation are high (Amabile, 1993, 1996).

On the basis of that body of early experimental work, which had been published in the *Journal of Personality and Social Psychology* and other psychology journals,

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I articulated a *componential model of creativity* that elaborated on Wallas's (1926) theory of the creative process and underwent significant subsequent revision as a function of new findings over the years (Amabile, 1983a, 1983b, 1996; Amabile & Pratt, 2016).

Initial Motivators to Move Beyond Academia

Nearly all of that early work was focused solely on the psychological science arena within academia. During the late 1970s and early 1980s, because of a confluence of three forces, I began to experience a growing desire for my research to have a positive impact on the world beyond academia. First, I had joined a new faculty group in the psychology department at Brandeis University called Applied Social-Developmental Psychology, a group that engaged in vigorous, stimulating debate about just what "applied" meant and how each of us might attempt to render our work more applicable to real-world concerns. Second, I realized that, as relevant as I thought my experimental results were to educators, business leaders, and others, the number of practitioners who regularly read the journals in which I had published—such as the *Journal of Personality and Social Psychology* and *Personality and Social Psychology Bulletin*—was probably vanishingly small. Third, I began to work with two outside organizations, the Creative Education Foundation (CEF) and the Center for Creative Leadership (CCL), the missions of which were to foster creativity in education and creativity in business leadership, respectively.

As a result of these awakenings and encounters, even as I continued to conduct experiments, I broadened the focus of my research beyond the laboratory and broadened the focus of my academic activity to include the public sphere. Because I realized that I was more interested in the creativity of adults than that of children, and because I wished to bring my research on children's creativity to the people who could use it before I ended that particular research stream, I wrote a trade book, *Growing Up Creative* (Amabile, 1989). That process was eye-opening. Even 3 decades ago, long before the era of social media, I came to learn that publishing a trade book required promoting that book. So not only did I give radio, television, and news media interviews (e.g., "The Today Show," *The Los Angeles Times*), but I also spoke to a number of parent and teacher groups around the world. I believe it was at that moment, more than 10 years after I had finished my doctorate, that my scientific work began to have a noticeable impact in the world beyond academia. I began to get letters and calls from parents, educators, and educational administrators who were attempting to apply some of my ideas, asking for feedback and advice. From this early experience beyond academia, I learned two important lessons: Having an impact in the world can be very time-consuming. But it can also be exhilarating to know that real people are using your research to solve real problems.

By the early 1980s, I had become passionately curious about whether and to what extent the social factors that I had decided to manipulate in the laboratory influenced the real-world creativity of adults whose jobs it was to produce novel, appropriate solutions to problems—and who often felt heavily invested in solving those problems. How, I asked, is creativity influenced by the social environment in the world of work, where people are trying to be creative for a living? Colleagues at CCL, who had access to a number of business organizations (something I lacked at Brandeis, which had no business school at that time), offered to help me answer that question. In a series of interview and survey studies with Research and Development (R&D) scientists, published with colleagues at CCL and beyond, I found support for my earlier experimental work on creativity killers, but I also found considerable nuance around those factors, and—at least as important—I uncovered a number of factors that can facilitate creativity in organizations.

The original R&D interview study (Amabile & Gryskiewicz, 1987) led to the development of a survey for employees that assesses perceived work-environment stimulants and obstacles to creativity (Amabile, 1995; Amabile & Gryskiewicz, 1989), as well as a validation study of the survey (Amabile, Conti, Coon, Lazenby & Herron, 1996) and a study revealing the impact of downsizing on the work environment for creativity (Amabile & Conti, 1999). This work, too, was published in academic journals. However, encouraged by my CCL colleagues, as well as my own growing interest in seeing this research applied by practitioners, I began to work directly with such practitioners in the 1980s. I helped design and teach courses for managers on creativity and innovation at CCL, and I began to take on consulting projects with a few business and government organizations that came to know my work through those courses. This felt like a small but significant step in the degree to which my research was having an impact outside academia; I was face to face with managers and employees who learned from my research, even as they challenged and sharpened my thinking about how creativity operates inside organizations. I learned much from them.

Those lessons were crucial. We psychological scientists may see ourselves as the purveyors of wisdom to individuals, organizations, and the society at large, and rightly so. But we should also see ourselves as learners, openly seeking to advance our insights by engaging,

with curiosity and openness about our research questions, with individuals, organizations, and society.

A Leap Into the World of Relevant Research

What happened next felt like more than a small step forward; it was a quantum leap in the ultimate relevance of my work to the world. Because I had begun to publish scholarly articles on organizational creativity and innovation in outlets read by business school academics (e.g., Amabile, 1988), and because the Harvard Business School (HBS) was building a new entrepreneurship department in the mid-1990s with a focus on those particular topics, I was approached by the HBS dean about a possible appointment at the school. Considering that transition was not an easy process, because I worried that my strong self-concept as a psychologist would dissipate at a business school that had very few psychologists on its faculty at that time. Moreover, I knew quite little about most aspects of business. But those concerns were overcome by two strong convictions. I felt certain that, at HBS, I would be able to significantly advance my research about creativity in organizations by conducting much more ambitious studies within the wide variety of organizations to which I would have ready access. Moreover, I believed that, in the HBS arena, I would be able to satisfy my growing desire to communicate my findings directly to people who could make a difference in the world through their own work. Indeed, the mission of HBS was "to educate leaders who make a difference in the world."

Soon after joining HBS in 1995, I did undertake the sort of ambitious study that had previously been only a dream that seemed unattainable within the constraints of funding from the National Institutes of Health and small foundations within the walls of a traditional R01 research university. Intent on taking a microscopic look at the ways in which events in the work environment might affect psychological state (including motivational state, affective state, and perceptions of the social environment) and creativity, in real time, I initiated a diary study of people working on creative projects. This study, which relied on a modification of the experience-sampling method (Csikszentmihalyi & Larson, 1987), collected nearly 12,000 daily diary reports from 238 professionals working in 26 project teams throughout the course of important innovation projects they were carrying out for the seven companies from which we had recruited them. The design, data collection, analysis, and write-up of results took more than a decade, but this intensive and extensive field study resulted in a number of academic articles on creativity and the work environment, leader behaviors, and everyday psychological experience at work (Amabile, Barsade, Mueller,

& Staw, 2005; Amabile & Kramer, 2011b; Amabile & Pratt, 2016; Amabile, Schatzel, Moneta, & Kramer, 2004; Moneta, Amabile, Schatzel, & Kramer, 2010).

Although those articles were published in journals and books read by business school scholars, the audience was still an academic one. Encouraged by my HBS colleagues to write directly for and speak directly to people in organizations, I began to experiment with various platforms that could accomplish that purpose. At the same time that the academic articles were in process, my diary study collaborators and I began publishing a series of articles in practitioner journals that summarized my earlier experimental and field research and highlighted the discoveries emerging from our new experience-sampling work (Amabile, 1997, 1998; Amabile, Hadley, & Kramer, 2002; Amabile & Kramer, 2007, 2010, 2011c, 2012). We wrote a few pieces for national media, such as *The New York Times* (Amabile & Kramer, 2011a). I published a series of teaching cases, based on findings from the diary study, to be used not only in my own MBA and executive classes but also in the classrooms of the dozens of business school educators around the world who adopted them for their own courses (e.g., Amabile & Litovsky, 2007; Amabile & Schatzel, 2004). Finally, as the capstone of the diary study, my primary coauthor and I published a trade book aimed broadly at an educated lay audience (Amabile & Kramer, 2011d).

With these various publications, as well as several blog posts, hundreds of Twitter posts about research in this realm, a number of media interviews, a TEDx Atlanta talk, consulting engagements, and speeches to a wide variety of business audiences, I was, at last, reaching well beyond academia. I was reaching—and, I hoped, having an impact on—people who were leading, aspiring to lead, or working within organizations of all types around the world. In my most optimistic moments, I believed that my work was helping to improve the everyday work lives, creativity, and productivity of thousands—maybe millions—of people.

Judging the True Impact of Research

What positive difference has my research actually made in the world? It is very difficult to know for sure. With academic publications, we can look at citation counts to get a sense of scholarly impact. But even that is a wildly imprecise measure of impact on a field. According to Google Scholar, my 1996 academic book has been cited over 9,000 times. But I doubt that that means it has played a vital role in shaping the thinking or research of even half that many researchers. Similarly, some of the "numbers" on my writings and talks for practitioners look quite encouraging. More than 100,000 reprints of my 1998 *Harvard Business Review* article, "How to Kill Creativity" (Amabile, 1998), have been

purchased, following the initial circulation of the magazine to more than 200,000 subscribers, and my other articles in that outlet have cumulative sales of approximately 116,000 reprints (M. Merino, personal communication, June 7, 2018). The Sunday *New York Times* that carried my 2011 op-ed piece (Amabile & Kramer, 2011a) listed it as the fourth most-emailed article that weekend. The 2012 article in *McKinsey Quarterly* was named the number 2 article of the year (Amabile & Kramer, 2012). As of June 2018, the TEDx talk had more than 58,000 views, the Twitter account had nearly 18,000 followers, and the 2011 book (Amabile & Kramer, 2011d) had been translated into 10 languages and sold 42,000 copies in the United States (M. Merino, personal communication, June 5, 2018). The book was named one of the eight best leadership books of 2011 by *The Washington Post* and the best business book of that year by *The Globe and Mail*. In addition to teaching about the research and its implications to my MBA and Executive Education students (all current or aspiring leaders), I have given talks about it to more than 80 companies and professional groups, some of which have been open to the public and/or made freely available on the Internet. All of this leads me to believe that I have facilitated positive changes in behaviors and attitudes in workplaces, but I must admit that I honestly do not know for sure.

Perhaps the most tangible and direct evidence that my research has made a positive difference in the world is anecdotal. My book coauthor and I have advised, heard from, or learned about many entrepreneurs who have used one or more of our diary-study results in creating businesses designed to help leaders or employees themselves enhance employee creativity, productivity, and well-being. Most gratifying are the dozens of letters and emails I have received over the years from parents, educators, students, managers, or employees who say that their own experience validates my research findings or that they have been using suggestions I have made from those findings and have noticed real improvements. For example, a 78-year-old technologist who had worked in aerospace, biotech, and healthcare wrote, "my experience confirms at all points your reported findings, and they correlate with my own personal notes collected across these many years" (July 2017). The head of a teacher-training organization wrote that my writings apply "both [to] students and their learning as well as adults and how an organization can operate more effectively and with more joy" (December 2016). A consultant wrote, "This is just a quick note of thanks for the insights that your research has brought to my own work. The 'progress principle' is really proving to be the linchpin in the strategic execution work I'm doing with my clients" (June 2018).

Finally, an organizational psychologist, business academic, and consultancy founder wrote,

> I think the idea of Progress is one of the two or three big ideas for reforming performance management in organizations and your work was instrumental in pushing me to this conclusion. . . . I found [your book] to be full of real practical suggestions for improving HR processes in organizations. (May 2018)

When I was in graduate school, more than 40 years ago, I could not have imagined that the research I was beginning might eventually have the real-world impact that I believe it has had. Indeed, I do not recall ever thinking about impact beyond academia. From my current vantage point, however, I cannot imagine a satisfying research career that does not make a positive difference in the world. I hope that this essay will inspire other psychological scientists to think about how their own work might benefit humanity.

Action Editor

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