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Undisciplined Disciplines

On Creativity

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Introduction

A review of available literature on creativity was undertaken to determine the definition of creativity, the common traits displayed by those perceived as being creative and how those traits may possibly be nurtured. The word 'creativity' has been used by politicians as if it is tangible commodity that must be developed in time of economic recession. Indeed, Dublin City Enterprise Board, a local government authority are in the process of staging 'Idea Generation' workshops, "this workshop not only shows you what ideas are good ideas but also introduces you to the concepts of thinking laterally" (Dublin Regional Authority, 2011). The Science Gallery in Trinity College, Dublin has held a series of events called Connector Brainstorm. "Einstein once said 'We can't solve problems by using the same kind of thinking we used when we created them.' Age old policies need new age thinking and with this in mind our team of experts came up with some radical suggestions on how the future of Irish politics and economy should be ran." (Lynch, 2010). The elusive commodity of creativity and creative thinking has been heralded as the panacea to rescue us from the grip of the recession. But what defines creativity? What are common traits? And can we nurture them?

Defining creativity and creative traits

According to Treffinger (1996), creativity has no single, universally accepted definition but has always been an elusive concept; and he

states that more than 100 definitions of creativity or creative thinking can be documented. Gardner (1989) attempted to describe creativity, "as the human capacity to regularly solve problems or to fashion products in a domain, in a way that is initially novel but ultimately acceptable in a culture" (p. 14). Csíkszentmihályi's definition (1997, p. 27) was "someone whose thoughts or actions change a domain, or establish a new one". Wycoff (1991) defined creativity "as new and useful. Creativity is the act of seeing things that everyone around us sees while making connections that no on else has made" (p. 22). Torrance (1987) broadly defined creativity as the process of sensing a problem, seeking possible solutions, testing and evaluating ideas, and then communicating the results to others. He added the process should include solutions that are original, and that are approached from a different point of view.

> "becoming sensitive to or aware of problems, deficiencies, gaps in knowledge, missing elements, disharmonies, and so on; bringing together available information; defining the difficulty of identifying the missing element; searching for solutions, making hypotheses, and modifying and retesting them; and finally communicating the results". (Torrance, 1987, p.22)

It is problematic to try to explain what creativity is, however many researchers of creative thinking have instead attempted to define types of creativity from observations of its attributes (Barron, 1969, Dacey, 1989; Isaksen, 1987; MacKinnon, 1978; Torrance, 1962). MacKinnon's (1978) longitudinal study of architects included intellectual and personality tests, self-assessments, and observations. McKinnon (1965) found creativity and intelligence are interdependent only up to a certain threshold, beyond which they become independent. Further research on this threshold was completed by Runco and Albert (1986) and set as an intelligence quotient of 120. The architects involved in McKinnon's study displayed a willingness to try, take a risk, and see what might work.

> "[they] make up for what they lack in verbal intellectual giftedness with a high level of energy, with a kind of cognitive flexibility which enables them to keep coming at a problem using a variety of techniques from a variety of angles; and, being confident of their ultimate success, these people persevere until they arrive at a creative solution". (MacKinnon, 1978, p.124)

Other traits MacKinnon listed included originality, independence, intuition, curiosity, receptiveness, willingness to learn, a strong sense of destiny and courage. Using the Myers-Brigg Type Indicator (Myers, 1962) he suggested the more creative of the subjects preferred to use their intuition to find deeper meanings and hidden possibilities in situations,

they also used their senses to become aware of their surroundings. MacKinnon found although only 25% of the general populous preferred intuitive perception, however, it was preferred by 90% of the creative writers, 92% of the mathematicians, 93% of the research scientists, and 100% of the architects.

The work of Gardner (1983) argued that we all have a number of different intelligences. These include; musical, bodily-kinesthetic, logical-mathematical, linguistic, spatial, interpersonal and intrapersonal intelligences. In later work Gardner (1993) studied biographical and personality factors which may be associated with creativity, by looking at the lives and work of seven great creators. These were Freud, Einstein, Picasso, Stravinsky, Eliot, Graham, and Gandhi whom Gardner asserted consisted of a fair and relevant representation of the seven intelligences. Similarities between those selected included, "rapid growth, once they had committed themselves to a domain (p. 364), and the amalgamation of the childlike and the adult like". (p. 365) Social-psychological similarities included that the household where each of the creators spent their childhood was quite strict and that "ultimately, each of the creators rebelled against control" (p. 367), each of the creators also had a sense of being on the margins of society to the extent "whenever they risked becoming members of 'the establishment' they would again shift course to attain ay least intellectual marginality. (p. 368) Critics have argued that Gardner's definition of intelligence is too broad, and that his different intelligences are representations of talents, personality traits and abilities.

"The creative process may be strongly influenced by personality type". (Esquivel & Hodes, 2003 p.147) According to Maslow (1976, pp.86-92) "creativity is found in everyone, but it is most significantly developed in the self-actualised personality". A definition of self-actualisation is that it occurs when one recognises and realises ones full potential. Maslow described this desire as the need to express our individual talents and become the best that we can. Maslow identified fifteen traits of a self-actualized person which included highly valued traits such as self-acceptance, spontaneity, independence, tolerance, altruism, ethics, and capability of loving others. Personality traits or dispositions that correlate negatively with creativity included those such as dogmatism, conformism, narcissism, frustration, resilience, and lack of tolerance. (MacKinnon, 1975, Getzels & Csíkszentmihályi, 1976, Simonton, 1984) (as cited in Craft, 2001)

Meneely and Portillo (2005) argued creativity is not localised in a particular thinking style. Some researchers have argued that the paradoxes found in the creative person appear to support adaptability — in thought and behaviour — as an attribute of creative

performance (Brophey, 2001; Csíkszentmihályi, 1996; Guastello, Shissler, Driscoll, & Hyde, 1998; Herrmann, 1989; Mackinnon, 1962, 1970; Sternberg & Lubart, 1995, 1996) (as cited in Meneely & Portillo, 2005). Some characteristics of creative individuals seem to contradict each other: flexible yet logical, taking risks yet committed to task, escaping entrenchment yet finding order in chaos. (Starko, 2010)

Csíkszentmihályi, (1996) believed the complex and potentially contradictory personality traits of creative individuals are a hallmark of creativity. Between 1991 and 1995, he conducted interviews with 91 exceptionally creative individuals across varied fields. The selection criteria included; the individual must have made a difference to a major domain of culture, had to be actively involved in that domain; and be at least 60 years old. Csíkszentmihályi, identified personality and biographical characteristics sometimes similar to and at other times divergent from those found by Gardner (1993). Whereas Gardner's creators often sacrificed personal relationships, most of Csíkszentmihályi's participants had stable and satisfying relationships. The most marked of Csíkszentmihályi's findings was the existence of contrast or paradox. Creative individuals experienced early years were nurturing or precarious, supportive or marginal. He identified paradoxical traits in his sample of mature creative's, including the capacities to be playful and disciplined, logical and naive, humble and proud, reality-bound and fantastical, introverted and extroverted, and masculine and feminine. Csíkszentmihályi, (1990, 1996) concluded the major distinguishing characteristic of creative people is the capacity to experience "flow," which he describes as an experience of timelessness and oneness with the activity in which one is engaged. Flow is"the state in which people are so involved in an activity that nothing else seems to matter; the experience itself is so enjoyable that people will do it even at great cost, for the sheer sake of doing it". (Csíkszentmihályi, 1990, p.4) Csíkszentmihályi (2005) also believed that one needs ten years of technical knowledge in any particular field to create something that was better than what was there before. Gladwell (2008) concurred and suggested that, apart from factors like parentage, peers and opportunity, it takes 10,000 hours of practice to become outstanding in a field of practice. Persistence is a key attribute that should be encouraged in students who are trying to come up with an idea for a creative project.

Nurturing creativity

The climate in which we are working or studying has an overwhelming influence on the success of our creativity. A positive environment is influential in achievement (Goh, 1994; Fisher, Henderson & Fraser, 1995; Wubbels & Levy, 1997). Individuals need to build a positive climate to

protect their own creativity from the indifference or hostility of a larger climate (Mauzy & Harriman 2003). Positive affect leads to greater creativity (Greene & Noice 1988), better problem solving (Isen, Daubman, & Nowicki 1987), and greater risk taking (Kahn & Isen 1993). Greene and Noice found the act of complementing students on their clothing, hair and/or jewellery improved their performances in creativity tests. While their sample sizes were small, the differences were very apparent. Creativity is somehow related to the emotional state of the creator. (Ferguson, 1990 — as cited in Walonick 2010)

Rogers' (1962) believed creativity is a natural product of healthy development, but it may be blocked by a person's need for psychological defenses. Psychological safety is associated with three processes: acceptance of the individual, lack of external evaluation, and empathetic understanding. Any act sending the psychological message that students are important, valuable, and full of potential builds a foundation of psychological safety. Csíkszentmihályi (1996) found in his study of highly creative individuals that college or university represented a high point of life. It was where they found their voice, identified their vocation, and were exposed to teachers who recognised their unique strengths. In Gardner's (1993) case study on 19th century creators one of the themes that emerged was the network of support that surrounded the creators at the times of their creative activities. During periods of intense creativity, cognitive support was needed in the form of someone in whom they could share their new found ideas and also affective support from someone whose friendship was unfailing; both of these roles could be met by the same person or by two individuals.

A study by Van der Lugt, Janssen, Kuperus and de Lange (2007) observed an increasing interest in creative spaces within organisations, resulting in many different kinds of creativity and innovation stimulating environments currently being installed in companies. In the Netherlands alone they found more than 15 dedicated spaces for creativity and innovation, "and the number is increasing rapidly" (p. 66). McCoy and Evans (2002) published two studies that undertook research on students on the potential role of the physical environment in fostering creativity. The first study was to determine what characteristics of the interior environment people would seek out to think creatively. McCoy and Evans showed the participants 1200 photographs of interiors, and asked them to choose which places they would want to go if "[they] had a very special problem to solve and needed to generate a lot of new ideas" (p. 413). Using statistical analyses, the researchers determined, when seeking a place to think creatively, participants chose those spaces that were spatially complex and conducive to social interaction; places full of visual detail and ornamental objects; and places that had extended views and

used more natural materials, such as wood, the reasoning behind this, they proposed, is “humans have such a strong biological affinity for nature, the presence of wood and wood grain may itself produce positive affect”. (McCoy & Evans, 2002, P.420) Participants also emphasised, “the importance of the type of finish and visible construction materials”. (McCoy & Evans, 2002, p.419) The study determined that, when looking for a creative space, participants avoided interior environments that used cool colour schemes (e.g., green, blue, or blue violet spectrum), had no view, and employed predominantly manufactured or composite materials. In their second study McCoy and Evans’, tested to see if working in a creative space actually enhanced innovative thinking. They tested the creative performance of a different set of study participants in two environments — one interesting space with visual detail, spatial complexity, windows, seating for social interaction, and natural materials/plants, and one bland space with solid walls, manufactured materials, no view, and monochromatic colours. McCoy and Evans found that participants in the creative space made collages that were more interesting and original than those participants in the bland space. They found the physical environment almost certainly affected the creativity of individuals and groups. In particular, facilities making it easier for individuals to contact one another when needed were likely to be beneficial to creativity. Yet individuals also needed facilities that offer solitude, where creative thoughts and ideas could be nurtured, and where reflections on other people’s ideas could be arrived at. These two functions of providing space both for meeting others and for reflection are basic to creativity. The research found the students preferred natural views, but even an obscured view contributed more to creativity potential than no view at all. These findings were congruent with the speculation that views of restorative environments may foster creativity. (Ulrich, 1984) McCoy and Evans’ study found high levels of spatial and visual complexity enhance the creativity potential of places. This place would offer visual interest and opportunity for discovery, and a challenging setting that provides intellectual and cognitive stimulation consistent with values of the creative personality, hence fostering creative behaviour.

Conclusion

Studies by MacKinnon and Maslow on traits that are inherent in creative people were self-acceptance, spontaneity, independence, tolerance, altruism and ethics. MacKinnon also suggested that the successful creative individual had an ongoing belief in the worth of their creative efforts. Perhaps the most obvious type of acceptance is a willingness to examine new ideas, even when they initially appear strange or inappropriate. As was found in Csíkszentmihályi’s study of highly creative

individuals, college or university represented a high point of life. It was where they found their voice, identified their vocation, and were exposed to teachers who recognised their unique strengths. Csíkszentmihályi, also concluded the major distinguishing characteristic of creative people is the capacity to experience "flow," which he describes as an experience of timelessness and oneness with the activity in which one is engaged. The environment that people work in may assist them in experiencing flow, as found by McCoy and Evans participants who worked in creative spaces made collages that were more interesting and original than those participants in the bland space. The physical environment almost certainly affected the creativity of individuals and groups. McCoy and Evans mentioned facilities that make it easier for individuals to contact one another when needed, yet also facilities that offer solitude, to nurture thoughts and ideas, and space for reflection. These two functions of providing space both for meeting others and for reflection were likely to be beneficial to creativity •

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