Thinking Skills and Creativity 10 (2013) 3–12

Contents lists available at ScienceDirect

Thinking Skills and Creativity

journal homepage: http://www.elsevier.com/locate/tsc

Approaches to creativity: How adolescents engage in the creative process

Carly J. Lassig*

Queensland University of Technology, Faculty of Education, School of Curriculum, Victoria Park Road, Kelvin Grove, Brisbane, Queensland 4059, Australia

ARTICLE INFO

Article history:
Received 21 January 2013
Received in revised form 2 May 2013
Accepted 19 May 2013
Available online 25 May 2013

Keywords:
Adolescents
Approaches to creativity
Creative process
Creativity education
Student creativity

ABSTRACT

Despite growing recognition of creativity's importance for young people, the creativity of adolescents remains a neglected field of study. Hence, grounded theory research was conducted with 20 adolescents from two Australian schools regarding their self-reported experiences of creativity in diverse domains. Four approaches to the creative process – adaptation, transfer, synthesis, and genesis – emerged from the research. These approaches used by students across a range of domains contribute to the literature in two key ways: (a) explaining how adolescents engage in the creative process, theorised from adolescent creators' self-reports of their experiences and (b) confirms hybrid theories that recognise that creativity has elements of both domain-generality and domain-specificity. The findings have educational implications for both students and teachers. For students, enhancing metacognitive awareness of their preferred approaches to creativity was reported as a valuable experience in itself, and might also enable adolescents to expand their creativity through experimenting with other ways of engaging in the creative process. For teachers, using these understandings to underpin their pedagogies can promote metacognitive awareness and experimentation, and also provide teachers with a framework for assessing students' creative processes.

1. Introduction

Perhaps due to traditional beliefs of creativity having spiritual and mystical origins, creativity has had a history of being considered an elusive, fuzzy, or ineffable topic, one that is not necessarily open to scientific study (Sternberg & Lubart, 1999; Treffinger, 2003). However, although it is complex, aspects of creativity are both observable and measurable (Treffinger, 2003). Although the construct of creativity is still debated, it is widely accepted that creativity: results in outcomes that are both novel as well as useful, appropriate, meaningful, or valuable; can be an individual or collaborative process; and is influenced by various personal and environmental factors (e.g., Amabile, 1996; Craft, 2000; Csikszentmihalyi, 1996; Hennessey & Amabile, 2010; Plucker, Beghetto, & Dow, 2004; Sternberg & Lubart, 1995). Runco and Jaeger (2012) highlighted that an explicit standard definition of creativity with the typical defining characteristics still used today (novelty + utility) was provided over half a century ago by Stein (1953). More recently, Simonton (2012) has applied the United States Patent Office's invention patent specifications of a three-criterion definition, and added the element of 'surprise' to the usual criteria of novelty and utility.

* Tel.: +61 7 3138 5987.
E-mail address: cj.lassig@qut.edu.au

1871-1871/$ – see front matter © 2013 Elsevier Ltd. All rights reserved.
http://dx.doi.org/10.1016/j.tsc.2013.05.002

Observing and measuring creativity usually focus on one or more of the *Four P's* of creativity: *person*, *process*, *product*, and/or *press* (Rhodes, 1961). A *person* focus includes "information about personality, intellect, temperament, physique, traits, habits, attitudes, self-concept, value systems, defence mechanisms, and behaviour" (Rhodes, 1961, p. 307). A *process* focus applies to studies that explore "motivation, learning, thinking, and communicating" (Rhodes, 1961, p. 308) involved in creative engagement and production. A *product* focus emphasises the outcome of creative engagement, which can be a tangible product (Rhodes, 1961), behaviour/s or repertoire, or set of communicated ideas (Richards, 1999). Finally, a *press* focus applies to studies exploring the relationship between creative persons, processes, and products and various social and environmental factors (Rhodes, 1961), and what facilitates or hinders creative engagement and production. Two more *P's* have since been suggested as additions to Rhodes' (1961) model: *persuasion*, to acknowledge that creativity and the environment have a reciprocal relationship with the judgement of creativity resting on creators persuading others that they, their process, or their outcomes are creative (Simonton, 1990, 1995); and *potential*, which is of primary concern to educators who should recognise all young people's potential for creating meanings and interpretations that are new to them as individuals (Runco, 2003).

This article will focus on the *P* of *process*. To study the creative process of individuals, cognitive approaches have been used to explore mental representations, intellectual processes, and thinking skills involved in creative thinking (Runco, 2007; Sternberg, 2003). Such cognitive processes or skills include, but are not limited to, intelligence, attention, memory, perception, information processing, associative processes, analogical thinking, metaphorical thinking, problem finding, problem solving, insight, intuition, unconscious processes, mindfulness, and over-inclusive thinking (Runco, 2007). Mednick's (1962) work on the associative basis of creativity is still widely cited to describe the cognitive process of creativity. A cognitive approach focus that is gaining increasing popularity is creative cognition. Based on experimental methods used in cognitive science, creative cognition aims to identify the cognitive processes and structures involved in creativity (Finke, Ward, & Smith, 1992; Ward, Smith, & Vaid, 1997). An alternative to experimental methods for studying individuals' creative processes is to ask the individuals themselves, which was the approach adopted for this research on the creative processes of adolescents. These results form part of a more comprehensive study of adolescents' experiences of creativity that considered the roles of all six *P's* (*person*, *process*, *product*, *press*, *persuasion*, and *potential*). Within the *process* focus, the aim of this article is to describe adolescents' different approaches for engaging in the creative process in order to develop creative outcomes.

The significance of targeting an adolescent population is that there are limited understandings of creativity in this age group (Claxton, Pannells, & Rhoads, 2005; Oakley, 2007). This gap in research exists despite reports that adolescence could be the critical period for development of creative capacity (Rothenberg, 1990). There are ebbs and flows in young people's creativity throughout schooling. Creativity often decreases in the early years of formal education; however, some improvements in creativity have been evidenced in adolescence (Claxton et al., 2005; Gardner, 1982; Smith & Carlsson, 1990). During the transitional period from childhood to adulthood, imagination and creativity is transitioning from the childish fantasy to more mature creativity based on rational and objective thinking (Vygotsky, 2004). This transitional adolescent period also entails increases in domain knowledge and experience, which are important for higher levels of creativity (Amabile, 1996; Craft, 2005; Sternberg & Lubart, 1995; Weisberg, 1999). Given the significance of adolescence and the developmental and experiential differences from other age groups, we cannot assume findings about children or adults are generalisable to adolescents. Therefore, adolescents are an important but often neglected population in creativity research and were accordingly selected as the focus for this study.

2. Research design and method

Grounded theory refers to the overall research design, methods of data collection and analysis, and the theory that culminates from the study. As the name suggests, grounded theory was a qualitative research approach originally designed to discover theory grounded in data (Glaser & Strauss, 1967). There are various grounded theory approaches now utilised. This study's methodology integrated two grounded theory approaches: the work of Corbin and Strauss (2008), and the constructivist methods of Charmaz (2006). Flexible application of Corbin and Strass' (2008) analysis techniques and strategies assisted exploration of data in different ways to enable theory development that was representative of participants' self-reports. Charmaz's (2006) grounded theory approach and suggested analysis strategies positioned the author within the research process where data were viewed as participants' perspectives rather than "facts", and analysis and theory development as co-construction of the participants' and my views and interpretations. Corbin's epistemology discussed in her 2008 book aligns more closely with Charmaz's constructivist beliefs, and therefore these two grounded theory approaches are reconcilable.

2.1. Research sites and participants

The research sites were two selective high schools in Australia, one specialising in the arts, and one in science, mathematics and technology. Researching creativity at schools with students who have interests and abilities in diverse domains was designed to surmount the false dichotomy of creativity for the arts and innovation for science/technology. Therefore, the schools offered a unique context for studying the diverse creative experiences of high school adolescents.

Twenty adolescents between the ages of 14 and 17 years were selected based on responses to an online survey of their conceptions of creativity, the Creative Personality Scale (Gough, 1979), the Creative Self-Efficacy Scale (*name deleted to maintain the integrity of the review process*) developed from a combination of items from two existing creative