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Review

Teachers' beliefs about creativity and its nurture: A systematic review of the recent research literature

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A B S T R A C T

The successful implementation of creativity in education is largely dependent on teachers' own beliefs about creativity, which have been investigated extensively in the past 25 years. With the growing emphasis of creativity in education, teachers today might not hold the same beliefs highlighted by earlier research. The current systematic literature review sought to identify, describe, appraise and synthesize the most rigorously available recent empirical evidence base on in-service K-12 teachers' beliefs about creativity. 53 studies published between 2010 and 2015 were included in the review. Findings suggest that teachers hold several beliefs that enable and numerous that hinder creativity development in schools. The review also highlighted recurrent incongruence between teachers' positive or adequate beliefs and their enacted classroom practices. Finally, several contextual, student- and teacher-related factors were identified as influencing teachers' beliefs about creativity. Overall, teachers' beliefs were found to be heavily context-dependent. Implications for policy, practice and research are discussed.

1. Introduction

Creativity has immense benefits both for the individual and the society, and thus fostering students' creative capacities has justifiably received significant policy, professional and research attention in recent years. Addressing creativity in the classroom has become an imperative for teachers around the globe, with policy documents and school curricula featuring it as an important desired student outcome in many countries (Craft, 2010; Heilmann & Korte, 2010; Shaheen, 2010). Also, there has been an upsurge in teacher-targeted books and articles on how to educate for creativity and the issue is now often tackled in initial teacher education and advanced through professional development courses and materials offered both online and offline worldwide (e.g. Beghetto, 2013; Beghetto, Kaufman, & Baer, 2014; Plucker, Kaufman, & Beghetto, 2015; Cachia & Ferrari, 2010; Starko, 2013; Tan, 2007). Furthermore, the implementation of creativity in education is supported by a wealth of research aimed at understanding, explaining and assessing the development of creative potential (Sternberg, 2015). Several studies have shown that creativity can be translated to various educational contexts (Beghetto & Kaufman, 2014; Cropley, 2011; Smith & Smith, 2010) and that creative skills not only can be encouraged through appropriate instruction and guidance (Hennessey, 2004; Isaksen & Treffinger, 2004; Renzulli, Gentry, & Reis, 2007; Scott, Leritz, & Mumford, 2004), but also that the development of such skills is inherently related to learning (Kaufman & Beghetto, 2009; Plucker, Beghetto, & Dow, 2004; Vygotsky, 2004). Yet, despite all the emphasis placed on nurturing creativity, classrooms are still struggling with accommodating students' creative development (Cachia & Ferrari, 2010; Sternberg, 2015).

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The progress of the implementation of creativity in education has been slowed down by several factors. Crucial among these are teachers' own beliefs about creativity and its nurture (Beghetto, 2010; Skiba, Tan, Sternberg, & Grigorenko, 2010). Educators' implicit theories about creativity were shown to be often at variance with the explicit theories derived from the scientific investigation of the construct and what teachers' might value, recognize and promote as creative, in reality, might not be (Skiba et al., 2010). Teachers' understanding of creativity and its relationship to scientific research is, thus, an essential issue with practical significance for the identification, development and evaluation of creativity in schools.

Existing research investigating teachers' beliefs about creativity has produced valuable findings on how teachers conceptualize creativity, their views about the profile of creative students and teachers, as well as their perspectives on creativity-fostering learning environments. Earlier findings on the topic were synthesized by Andiliou and Murphy (2010), indicating several common mis-alignments between teachers' and researchers' creativity-related views across studies published before 2010. In a more recent the-matic analysis Mullet, Willerson, Lamb, and Kettler (2016) highlighted certain personal characteristics that might affect how edu-cators conceptualize creativity and its promotion. Factors influencing teachers' beliefs, however, have not been explored systematically. Furthermore, several conclusions on the nature of teachers' perceptions were drawn on studies emanating from the literature before 2010. Building a strong evidence base from recent findings to inform policy and practice is important, especially with the issue of creativity. Due to the growing emphasis on creativity in education teachers' views are more susceptible to change and may evolve in time, thus educators' today might not hold the same beliefs that were highlighted by earlier research. Nevertheless, a systematic review of the new research findings on teachers' beliefs about creativity has not yet been carried out.

Then, in order to ensure that policy, practice and research are informed by the most rigorously available new evidence the present systematic review seeks to describe, appraise and synthesize the empirical research base on in-service K-12 teachers' beliefs about creativity between 2010 and 2015 and it asks the following research questions:

1. What is known about teachers' recent beliefs about creativity?
2. What is known about the relationship between teachers' beliefs about creativity and practice?
3. Is there evidence about any factors that influence teachers' beliefs about creativity?

1.1. Understanding creativity in education

Educational psychologists generally agree that creativity involves an individual or group process which results in outcomes that are both original and appropriate by a given social context, and is influenced by several personal and environmental factors (Amabile, 1996; Csikszentmihalyi, 1996; Plucker et al., 2004; Stein, 1953; Sternberg & Lubart, 1991).

Originality and appropriateness as joint requirements for creativity can be adopted to the classroom context by considering the appropriate level of creative expression. Various levels of creative accomplishments have been identified in the literature (Csikszentmihalyi, 1996; Kaufman & Beghetto, 2009; Richards, 2007; Stein, 1953). In this respect, Four-C model of creativity - put forward most recently by Kaufman and Beghetto (2009) - differentiates between four levels of creativity: Big-C or eminent creativity, exhibited by great artists or scientists, Pro-C or expert level creativity, that is the creativity of professional-level creators who have not yet attained eminent status, Little-C or everyday creativity, which represents creativity involved in daily activities and experiences, and Mini-C or subjective creativity, which refers to the novel and personally meaningful insights that one encounters during learning and experience (Kaufman & Beghetto, 2009). The Four C-model thus acknowledges everybody's potential to be creative as well as offers a developmental trajectory of creativity in the classroom, in which mini-c creativity serves as the genesis of later levels of creative expression.

Originality and appropriateness are also strongly connected to the domain in which creativity manifests as well as to the knowledge it requires. It has been shown that creativity can manifest in any domain (Baer & Kaufman, 2005), whereas the domain in which creativity manifests provides the knowledge base within which people can be creative (Craft, 2005). Nurturing students' creative capacities hence is interwoven with knowledge and skill acquisition across the curriculum (Beghetto et al., 2014).

Finally, creativity has traditionally been conceptualized and investigated along the Four Ps – the creative person, product, process and place (environment) - proposed by Rhodes (1961). In this framework *person* stands for the creative individual or group, *process* refers to the mental mechanisms that occur when a person is engaged in a creative activity, *products* are the results of the creative activity, whereas *place* represents the setting or climate in which the creative persons reside (Rhodes, 1961). More recent models integrate the 4Ps and emphasize the interaction among the elements that together represent creativity (Amabile, 1996; Csikszentmihalyi, 1996; Sternberg & Lubart, 1991). Based on these models, creativity in the classroom arises from the interplay of students' personal characteristics and the factors of the environment in which learning takes place (Cropley, 2011).

1.2. Creative pedagogy

Fostering students' creativity in the classroom can be understood as the confluence of three elements represented by Lin's (2011) framework of creative pedagogy: teaching for creativity, which refers to identifying and encouraging student creativity and providing students opportunities to be creative (Jeffrey & Craft, 2004); teaching creatively, that is using imaginative approaches to make learning more interesting and effective (NACCCE, 1999), and learning creatively (Craft, 2005), which denotes learning that stimu-lates creativity.

Several pedagogical approaches have been identified in the literature to promote students' creativity in the classroom (e.g. Beghetto & Kaufman, 2014; Craft, 2005; Renzulli et al., 2007; Woods, 1995). These generally involve the following elements: valuing,