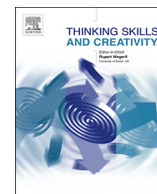




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Does socioeconomic status influence student creativity?

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ABSTRACT

In recent years, creativity has been a topic of increased interest in the educational environment. Developing creativity is increasingly viewed as an educational imperative because it drives individual student performance and influences their future success as participants in an economy based on knowledge. The objective of this study was to measure and assess 5th grade student creativity, from 24 educational institutions, and compare whether results show significant differences in certain variables. It was concluded that there were significant differences for certain variables such as type of school, gender, socioeconomic status and participation in extra-curricular activities. It was also found that as socioeconomic level increased, so did creative ability, with standardized test results following similar trends as applied creativity tests.

1. Introduction

In recent years, interest in creativity has increased in the educational area. The development of creativity is increasingly regarded as an educational imperative. Two forces drive increased emphasis on creativity, individual student achievement and their future success as participants in a knowledge-based economy (Mullet, Willerson, Lamb, & Kettler, 2016). However, current educational strategies are limited to teaching rigid models which do not foster creativity, and encourage the acquisition of knowledge over creative exploration. Students are considered more intelligent when they are able to acquire, remember and apply information, which opposes a creative perspective (Brand, Hendy, & Harrison, 2015), even though several studies conducted during the 1960s reported a significant association between creativity and academic performance, demonstrating that creativity could lead to better academic performance (Hansenne & Legrand, 2012).

Zacatelco, Chávez, González, and Acle (2013) suggest that students are taught to think and act divergently in early levels of education, where students are encouraged to use their imagination, sharpening their intuition, arousing curiosity and their ability to solve problems. However, Duarte (1998) notes that from that moment on, creativity diminishes until post-secondary education, except for those careers related to artistic activities. Two arguments support these discrepancies. First, creativity is a product with many different aspects, personal characteristics (cognitive, attitudes, emotional), and also include's social, cultural and environmental factors. There are certain barriers and problems associated with motivation, trust, and external factors that can further limit this potential. Second, creativity is a process in which thinking skills are used, both divergent and convergent, each of which depends significantly on the step along the creative process in which they are applied (Alfonso-Benlliure, Meléndez, & García-Ballesteros, 2013). Divergent thinking implies that a person is able to offer multiple or single solutions to solve a problem or task, whereas convergent thinking refers to the ability to generate an optimal solution to solve a particular problem (Chiu, Hsu, Lin, Chen, & Liu, 2017). Both types of thinking are required, however, traditional education systems have exclusively supported convergent thinking

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(De Bono, 1986). Furthermore, individual creativity is possible if knowledge, cognitive functions, personality, and motivation, as well as environmental context are all developed in harmony (Jung & Chang, 2017).

1.1. Creativity

Creativity as a concept or feature, has social and economic implications, and has positive effects on personality aspects (Chen, 2016), playing a crucial role on cultural lifestyle. It is essential for the development and progress of human civilization (Shu-Hsuan, Chih-Lien, & Jing-Chuan, 2016) and the benefits of long-term encouragement are well established, and feeding creative activities when children are young will provide society with imaginative thinkers and leaders of scientific entrepreneurial discovery (Yates & Twigg, 2017), but its definition can be challenging, since definitions of creativity are found in abundance (Orr & Kukner, 2015). Yates and Twigg (2017) have acknowledged the long-term benefits associated with creativity, and state that fostering creativity during the early years will promote a society of imaginative thinkers and leaders of scientific and business discoveries, as well as the rise of an economy based on knowledge, with an focus on innovation and creativity as important aspects of competitiveness (Kuo, Burnard, McLellan, Cheng, & Wu, 2017).

Historically, the measure of creativity has been achieved through two main categories. The first includes methods based on questionnaires that are mainly used to measure three groups of variables: (i) personality traits; (ii) thinking style; and (iii) creative activities and achievements. The second category is based on tasks, and can be divided into three general categories: (i) divergent thinking tasks; (ii) artistic creative tasks and real life; and (iii) tasks regarding vision (Fürst & Grin, 2018).

Studies regarding creativity measurement began before the fifties, however, Guilford was the pioneer in the evaluation of intelligence in creative accomplishments, coining the term “divergent thinking”, which was measured with a test which he developed along with his colleagues (Chou, Chen, & Chou, 2014). It is important to emphasize that the test was a milestone for the further development of other measuring instruments of creativity. Guilford proposed the existence of a series of skills that correspond to divergent thinking through various studies, which are fluency, flexibility and originality (Artiles, Jimenez, Rodriguez, & García, 2007). These have been universally assumed in the evaluation of creativity (Almeida, Prieto, Ferrando, Oliveira, & Ferrándiz, 2008), labelling responses according to quantity and quality. Fluency assesses the number of ideas, flexibility evaluates the themes or categories in the group of ideas, and originality addresses the number of original or unusual ideas (Runco & Mraz, 1992). Currently, the most used evaluations to measure creativity are tasks involving divergent thinking, particularly those that generate creative ideas (Krumm, Arán, Lemos, Koval, & Balabanian, 2016).

Creativity is essential for humans, and one of the main agents of development is education, because it drives the creative potential of students and expands comprehensive and balanced attitudes in order to transcend their lifestyles (Piguave, 2014). Creativity describes the tendency and the ability of experimentation, trial and error, thinking in unconventional ways, challenging current assumptions, flexibility and adaptability in problem solving (Gundry, Ofstein, & Kickul, 2014). However, excessively rigid and programmed instruction reduces the creative process, demonstrating that education can inhibit or stimulate creativity (Martínez-Otero, 2005).

In an inhibiting atmosphere, in addition to having excessive rules, student ideas are ignored, teachers take control and mistakes are not allowed (Galvao, de Souza, & Soriano, 2012). Despite the above, people can be creative in any aspect of life, beyond the general perception of creativity linked to the arts and culture (Gundry et al., 2014). Thus far, studies have shown that creativity can be enhanced through training. There are two main branches for creative training: training programs in incorporated creativity, which are focused on action and center around exercise and practice, and mainly use short exercises, facilitated processes and workshops to deliver experiences to students. The other main branch is reflexive creativity training, which is centered on the development of understanding theories, models, tools, techniques or processes, and mainly uses debates, lectures, conferences, seminars and workshops (Byrge & Tang, 2015).

It is also important to emphasize that creativity is a significant driving force for entrepreneurial processes, helping to discover new business opportunities, highlighting the key role of innovation and entrepreneurship as sources of economic growth (Chiayu & Suechin, 2013). Creativity also allows entrepreneurs to identify and exploit opportunities that allow their businesses to be more competitive and innovative (Gundry et al., 2014). Audretsch and Belitski (2013) provide positive evidence that creativity reflected in entrepreneurs, as well as the diverse environments where creative people work and live, is essential in creating new business opportunities. Creativity in organizations is presented as a phase of innovation and is a crucial core issue of the economy (Fischer, Oget, & Cavallucci, 2016). Furthermore, it has been established that well-designed creativity training usually leads to an increase in creativity output (Scott, Leritz, & Mumford, 2004a), specifically, the generation of ideas and cognitive training has been shown to be particularly efficient when compared to training strategies normally applied (Scott, Leritz, & Mumford, 2004b). Contemporary research identifies creativity with the generation of novel and useful ideas in any domain (Amabile, 1996). Runco and Garrett (2012) propose that the standard definition of creativity requires two components: originality and efficiency. The concept of creativity is associated with the achievement of objectives, the generation of new results, emergence of new products (Santos, Uitdewilligen, & Passos, 2015), or the development of new and appropriate solutions (Agogué, Levillain, & Hooge, 2015).

Given the previous statements, this study considers the constructs proposed by Guilford (1967), who states that creativity, in a limited sense, refers to aptitudes that are characteristic of creative individuals, such as fluidity, flexibility and originality, in addition to the definition of creativity as the generation of novel and useful ideas within any domain (Amabile, 1996).

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