

Students' engagement in school and creativity professed by students and assigned to teachers: A literature review

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Abstract

This article reviews the literature on the relation between creativity (as a personal and a contextual variable) and students' engagement in school. In order to describe the state of art of student's engagement in school and creativity, we prepared a narrative review. In general, literature shows a prevalence of studies relating creativity and giftedness; students with above average skills are, as a rule, characterized, among other criteria, by the presence of creativity and the existence of high motivation for learning. As a personal variable, creativity relates positively with self-concept and academic performance, appearing as an aspect worth encouraging in the

student. Moreover, studies on the impact of the learning environments on student's performance also suggest a positive relationship between the classroom climate and academic outcomes. Although studies on the relationship between creativity and the students' behavior appear inconsistent, the teacher's creativity, applied to the teaching-learning process, and perceived by the student, appears related to school satisfaction and academic performance. This brief review highlights the value of including creativity in teaching practices, drawing attention to the lack of studies and the need to develop research, both relational and quasi-experimental, on the relationship between creativity and students' engagement in school and its effects.

Keywords: students' engagement in school, student's creativity, teachers' contexts of creativity, teacher's creativity inferred by the students.

1. Introduction

Students' engagement in school is a multidimensional construct that has been related to several products required at academic level, and studied as a mediator and as a product. A considerable amount of studies sustain that both personal (self-efficacy, self-concept, creativity) and contextual factors (peers, school, family) are related to students' engagement in school and to a good academic performance; on the other hand, the lack of engagement is related to low academic achievement, behavioural problems and school dropout. Creativity, in particular, may be addressed as a personal variable (the students' creativity) or as a contextual variable (creativity in classroom management). Research suggests that the school's organizational and instructional climate influences both academic engagement and performance (Alencar, 1999, 2003; Eccles, Wigfield, & Scheifele, 1998; Patrick, Ryan, & Kaplan, 2007; Ryan & Patrick, 2001; Wechsler, 2006, 2008), highlighting the teacher's creative role.

In order to describe the state of art of students' engagement in school and creativity, we prepared a narrative review. The method applied entailed systematic searching, reviewing, and writing to bring together key themes and findings of research in this field. We searched recent articles in scientific data bases such as SCIELO, LILACS, EBSCO Host (including: Academic Search Complete, Education Source, ERIC, PsycARTICLES, PsycINFO, Psychology and Behavioral Sciences Collection, PsycBOOKS, and PsycTESTS), besides several Portals, for example Science Direct

or the Scientific Open Access Repository of Portugal – RCAAP. Handbooks and PhD Thesis were also regarded. Research used controlled language and keywords were verified in a Thesaurus. Our study goals were considered in the articles' selection process, and several criteria were applied (full document available; articles written in English). Reviewing the available literature was focused on identifying and analyzing cutting-edge core themes and their importance, as well as research lines, followed and suggested.

The purpose of this work was to review literature on the relation between students' engagement in school and creativity; nevertheless, we will begin by introducing the concept and the assessment methods of creativity.

2. Creativity: Conceptualization and assessment

Creativity is difficult to define and complex to study. It was only in the twentieth century that it began to be considered in the fields of Education and Psychology. Its definition was first based on the idea of creating something new; later, by Gestalt, was sustained by thought processes, linked to problem solving; Psychoanalysis, in turn, introduced creativity within the framework of unconscious processes (Alencar, 1999, 2003; Bahía & Oliveira in Veiga, 2013; Wechsler, 2008).

The incorporation of various factors related to creativity has been a tendency of the scholars in the field of education; as suggested by Wechsler (2008), Bahía and Nogueira (2005), creativity began to be perceived as a convergence of cognitive and motivational factors. It has been approached from various perspectives (Taylor, 1988): from the Person's (what personality features may be found in a creative person), from the Product's (focused on the products elaborated by a creative person), from the Process's (how does creativity arises and the study of its typologies) and from the Persuasion's (considering the socio-cultural context where it occurs) perspectives. Process and Product perspectives have been the most valued in the assessment of creativity (Alencar, 1999; Taylor, 1988), however, this process strongly relies on the theoretical perspective adopted, being the psychometric approach decisive in this matter. One of the most prominent tests that is still currently used was proposed by Torrance (1981, 2000): The Torrance Tests of Creative Thinking (TTCT). The same author (1981) defines creativity as the process to become sensitive to problems, deficits and lacks of knowledge, searching for solutions, making previsions, and

formulating hypothesis to respond to those deficits; testing and retesting hypothesis and, finally, the communication of the results accomplished. Accordingly, creativity is perceived in three dimensions: fluency (number of responses), flexibility (number of different categories comprised in the responses) and originality (statistical rarity of the response), as measured by the TTCT, an extensive test, both to apply and quote, still, consistent in its validation results (Azevedo & Morais, 2001; Wechsler, 2006).

The discrepancy between the results in creative tests and the effective creative behavior (Cropley, 2005; Kim & Tassel-Baska, 2010) has encouraged the emergency of other types of tests, such as: divergent thinking tests, inventories of attitudes and interests, personality inventories, biographical inventories; teacher's evaluations, self-assessment of creative accomplishments, study of eminent individuals, and evaluation of creative products. In the literature (Alencar, 1999, 2003; Bahia & Nogueira, 2005; Cropley, 2005; Pereira, 1998; Sternberg, 2005; Wechsler, 2008), it is advocated the use of multiple complementary, resources, in the assessment of creativity, such as portfolios, self and hetero evaluation, skill and capacity tests. Pereira (1998) underlines the difficulty of assessing something that escapes from the standard patterns, such as creativity, using standard processes

Student's creativity is considered an important component in intrinsic motivation for learning, as well as in the bonding to school tasks (Crick, 2012 in Christenson, Reschly, & Wylie, 2012). The importance of studying the contexts where creativity materializes is also highlighted (Almeida & Tavares, 1998; Morais, 2001; Nogueira-Ibérico & Bahia, 2006; Wechsler, 2008).

3. Engagement in school and creativity professed by the students

As a personal variable, creativity has been studied in relation to self-concept, a multidimensional concept (Veiga, 1995; 1996; 2012). The studies relating these two variables suggest a bi-directionality: creativity as a dimension of self-concept (Marsh, Byrne, & Shavelson, 1988) and self-concept as a factor of creative production (Alencar, 1999, 2003; Veiga, 2013). Based on the notion that the self is influenced by others appraisals of the subject, Veiga and Caldeira (2005) consider the existence of a relationship between creativity (what the students believe others think) and self-concept, based on a study with 298 students from the 7th, 9th and 11th grades. The

results indicated that students seen as creative had superior results in self-concept. Goldsmith and Matherly (1998) sought to understand the relationship between creativity and self-esteem in 118 college students, and found a statistically positive relationship significant in either sex.

Two positions may be found in the literature on motivation and giftedness: one understands motivation as an inherent component of giftedness (defined by an above average performance in three areas: intellectual ability, creativity and motivation for performance - Renzulli, Reid, & Gubbins, 1992; Sternberg, 2005) or as moderator variable, susceptible of allowing the potential for the exceptional to occur (Gagné, 1993; Heller, Perleth, & Lim, 2005; Robinson, 2005; Ziegler, 2005). Persistence and pleasure behaviors in learning are more prevalent in children and adolescents with higher achievements in certain domains such arts; gifted children show higher levels of motivation for learning and achievement, in several studies (Alencar, 1999, 2003; Gottfried, Gottfried, Cook, & Morris, 2005; Vallerand, Gagné, Senecal, & Pelletier, 1994; Wilhelm, Schulze, Schmiedeck, & Süß, 2003; Ziegler, 2000), though the differences appear, in general, small.

A study by Veiga and Marques (2001) found an association between students' giftedness and the occurrence of aggression behaviors, as suggested by other authors (Cropley, 2005; Veiga, 2013). Another study (Veiga & Caldeira, 2005) examined the relation between creativity assigned by the teachers (considering the students' perceptions) and the dimensions of personal attitudes toward themselves, in several aspects (cognitive, affective and behavioral), in a sample of 298 students of both sexes, from 7th, 9th and 11th grades and different nationalities. The analyses of the results allowed finding significant differences in the dimensions of students' personal attitudes toward themselves, considering creativity, with higher results in those students classified as creative; however, these differences were not observed in student's school disruption.

Kim and Tassel-Baska (2010) analyzed the relation between creativity and behavior problems. Two groups of students (with good versus poor performance) were compared in terms of creative potential and the occurrence of behavior problems, according to the teachers' perception. They found a relationship between behavior problems and the results found in the creative potential measures, in those students with poor performance.

Creativity also appears positively and significantly associated to school (Fredrickson, 2001) and academic achievement (Caldeira & Veiga, 2006; Campos & Gonzalez,

1993; Veiga, 2013). A study with 6th and 9th grade students, carried out by Caldeira and Veiga (2006) found a significant and positive, although low, correlation between the dimensions of creativity measured by the Torrance Creativity Test, particularly the dimension originality, and the school subjects portuguese, mathematics and sciences. Also Gervilla (1987) and Campos and Gonzalez (1993) found, in college students, positive, tough low, correlations between these variables. Moreno (1992) underlines the relation between creativity and academic achievement, since the students showing a high verbal creativity correspondingly present higher academic achievement in mathematics, in their native language, and in general.

4. Students' engagement in school and teachers' creativity inferred by the students

The importance of the *school environment* for the development of students' creative potential appears extremely relevant (Alencar, 1999, 2003; Allodi, 2010; Besançon, Lubart, & Barbot, 2013; Caldeira & Veiga, 2006; Heise, Bohme, & Komer, 2010; Schick & Phillipson, 2009). School context encloses the function of promoting the development of the students' creative skills, by exploring stimulating themes, exercising critical and divergent thinking, and designing a classroom atmosphere that values the expression and production of ideas (Besançon, Lubart, & Barbot, 2013; Caldeira & Veiga, 2006; Heise, Bohme, & Komer, 2010).

Teaching models have been moving from a static field toward a dynamic and student-centered approach; within this context, creativity, in particular, has been recognized as an asset to the students, as a human potential to develop, and an essential tool for meeting the challenges posed by society (Caldeira & Veiga, 2006; Heise, Bohme, & Komer, 2010; Schick & Phillipson, 2009). Students' creativity appears associated with the classroom climate and teachers' behavior, variables that are likely to influence motivation and engagement in learning. The impact of school context has been studied by comparing the so-called traditional schools and others whose methodologies are considered alternative (e.g., Montessori, Steiner or Freinet), with results favoring the last (Allodi, 2010; Besançon, Lubart, & Barbot, 2013; Heise, Bohme, & Komer, 2010).

Creativity is, sometimes, inhibited and punished (Torrance, 1981, 2000; Wechsler, 2006) instead of encouraged, with consequences on students' school performance.

Nevertheless, learning climate should reflect and promote the students interest and willingness to learn. The use of creativity has been pointed out as a strategy of engagement within classroom (Besançon, Lubart, & Barbot, 2013; Caldeira & Veiga, 2006; Heise, Bohme, & Komer, 2010; Walsh, 2003), assuming itself as a facilitator of learning, by promoting concentration, activating prior learning, encouraging the selection and focus on the class essential material, by making learning meaningful to the students. In a study with approximately 1366 students from 9th grade, Schick and Phillipson (2009) found that classroom environment was a stronger contributor to motivation in the group of students with poor performance, when compared to the group with good performance.

5. Final considerations

Studies on creativity often focus on giftedness domain. Besides the determination of a giftedness student profile, which includes creativity, research has mostly centered its attention on the appropriate educational responses for these students, according to their special needs (Alencar, 1999, 2003; Besançon, Lubart, & Barbot, 2013; Caldeira & Veiga, 2006; Heise, Bohme, & Komer, 2010; Miranda & Almeida, 2012). However, both children and adults showing potential (latent talent) don't necessarily have a higher intellectual ability; likewise, those with a high intellectual capacity are not necessarily and exceptionally gifted, concerning to creativity (Besançon, Lubart, & Barbot, 2013).

Creativity (students' creativity and related to the teachers' classroom management) appears in the literature as having positive relations with academic self-concept (Goldsmith & Matherly, 1998; Veiga & Caldeira, 2005; Veiga, 2013), a notion also positively associated with academic performance (Alencar, 1999, 2003; Gonzalez-Pienda, 1997). As an element of giftedness, creativity has also been associated to motivation for learning. In general, students with higher intellectual ability appear as more motivated for learning and with a higher performance, in research (Gottfried, Gottfried, Cook, & Morris, 2005; Vallerand, Gagné, Senecal, & Pelletier, 1994; Wilhelm, Schulze, Schmiedeck, & Süß, 2003; Ziegler, 2000). However, the relationship between creativity and appropriate behavior is not conclusive. Veiga and Marques (2001) found an association between giftedness and disruptive behaviors; Veiga and Caldeira (2005) did not find differences in students' school disruptions,

considering creativity.

Students' disengagement from school may be considered as a form of resistance against inappropriate or irrelevant classroom management practices (Urdu, 2004; Veiga, 2013; Zyngier, 2007). It is worth noting that the contexts where individuals interchange, as well as classroom management styles may contribute for the creative potential and to the accomplishment of learning goals (Kaplan & Middleton, 2002; Urdu, 2004; Veiga, 2013). Creativity has been identified as a strategy of engagement in the classroom (Walsh, 2003), being positively associated with school satisfaction (Fredrickson, 2001) and academic performance (Alencar, 1999, 2003; Caldeira & Veiga, 2006; Campos & Gonzalez; 1993; Moreno, 1992). For this reasons, it is a variable to be considered by researchers aiming to understand the relation between creativity and motivation for learning, and also by teachers aiming to promote students' deeper engagement in learning and, consequently, a better academic performance (materialized in achievement and behavior).

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