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Evaluation of a creativity intervention program for preschoolers

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ABSTRACT

Creative practices during the preschool years of childhood appear to positively influence subsequent development. Taking a comprehensive approach, an intervention program was undertaken to develop creativity, taking into consideration the end result of the creative process as well as the process itself, and working with divergent as well as convergent thinking abilities. A quasi-experimental design was applied, taking pre and post-intervention measures in a group of 44 children ranging in age from 60 to 71 months-old. Experimental and control groups were assessed using the Test de Creatividad Infantil (Child Creativity Test) and the cognitive subtest of the Battelle Developmental Inventory. Significant time-group interaction effects occurred between the variables Interaction, Departure from the Model, and Making up Figures, and the entirety of the creativity test. This intervention demonstrates that gains can be made in divergent and convergent thinking in preschool-age children, as considerable changes were observed throughout the creative process, and in the quality of the final product of young participants' creative action.

1. Introduction

Some authors describe the preschool years as a golden age of creativity (Gardner, 1982). During these years, all children naturally express their creative potential. Children play, sing, dance, draw, tell stories, and make up riddles in such a natural, spontaneous, and creative way that it goes without saying that there is indeed such a thing as children's creativity. Some would argue, in fact, that children are the very embodiment of human creativity (Glaveanu, 2011).

However, all authors do not agree that children's expressions should be considered creative (e.g. Csikszentmihalyi, 1996; Dudek, 1973; Sawyer et al., 2003). The two criteria generally applied to consider a behavior creative are originality (novelty) and adequacy (adapting to the situational demands under which it takes place), and children only satisfy the first. Their lack of intention to meet external needs and conditions led the aforementioned authors to conclude their behavior ought not to be labeled "creative." In fact, they argue that there is a tendency to "romanticize childhood" by exaggerating the creative value of what children produce.

Meanwhile, Kaufman and Beguetto (2009) add to the traditional distinction between "Big Creativity" (eminent and objective), and "little creativity" (commonplace and sometimes subjective), two new categories: "Pro-creativity," which makes room for professional-level creators who have not yet attained eminent status, and "mini-creativity," which differentiates between subjective and objective forms of "little c." Child creativity, then, is a paradigmatic example of "mini c."

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Creativity is hugely different in childhood and adulthood, above all in how complex the psychological mechanisms involved are, in one's level of control and pro-positivity during the creative process, and in the quality of the final products that process generates. The reasons for this are varied: children's sheer cognitive immaturity, their still uncomplicated relationship with the world, limited life experience, narrow range of interests. . .

We are interested in the study of children's creative development at the end of the preschool education. Gardner (1982) indicated preschool children have high levels of creative ability, and when they enter school, their creativity tends to decline as they learn conformity. Urban (1991) using the Test for Creative Thinking-Drawing Production (TCT-DP) with children between four and eight years of age found a decrease on children's creativity at the beginning of primary education. The transition toward thinking based on internalized action (specific operations) and the leap from early education to primary school could be the main reasons for this dip in creative manifestations. Their thinking becomes more logical and conventional, they better understand the world around them, and they conform to the reality of social acceptability. These advances allow them to meet the criterion of adequate response, but often at the expense of originality. This passage from childhood creativity to adult creativity can be a sticking point for many people, who rarely or never make use of their creative potential.

Nevertheless the findings of the literature on the creativity trajectory across childhood have been ambivalent. Some studies report an age-related decline in creativity, especially during certain stages of childhood: 5 to 6 years-old (Urban, 1991); 6 to 8 (Smith & Carlsson, 1983, 1985, 1990); and 8 to 10 (Lubart & Lautrey, 1995; Torrance, 1968). Others still report a positive correlation between creativity and age (Besançon & Lubart, 2008; Chae, 2003; Maker, Jo, & Muammar, 2008; Smith & Carlsson, 1983). After their review of the literature, Mullineaux and Dilalla (2009) concluded that children's creativity continually increased, on average, although with occasional fits and starts.

Two arguments help us to better understand these discrepancies. First, creativity is the product of the combined effects of many factors, including personal traits (cognitive, attitudinal, emotional. . .) as well as social, cultural and environmental factors (Amabile, 1983; Csikszentmihalyi, 1988; Perkins, 1981; Sternberg & Lubart, 1991, 1995; Williams, 1972). Although creative potential can improve with age (with increased experience and knowledge), certain barriers and problems associated with motivation, confidence, inhibiting external factors, etc., can limit that potential. Second, creativity is a process in which divergent as well as convergent thinking abilities are used, each more or less prominently depending on the moment in the creative process. Convergent thinking refers to analytical thought processes, while divergent thinking is viewed as the more general process underlying fluent production of alternative ideas during creative problem-solving (Cattell, 1971; Getzels & Jackson, 1962; Guilford, 1975). At certain times in the creative process (e.g. analysis, decision-making, revision. . .), convergent abilities are especially important. At others (e.g. identifying the problem, brainstorming. . .), divergent abilities gain prominence (Amabile, 1996). Convergent and divergent abilities surely follow distinct patterns across development. Recent studies (e.g. Baer, 2003; Charles & Runco, 2001) have found that while convergent variables develop progressively with age and intellect, divergent variables follow a more erratic trajectory replete with instability, and significantly decline as childhood progresses. Traditionally, creativity's trajectory has been based on analysis of final product variables (features of the work). Yet recently, researchers insist that additional measures be used to detect features of the creative process.

Assuredly, one of the main reasons for disparity between different studies' results is their failure to grasp the complexity of the creative phenomenon, which is made up of components cognitive and emotional-personal, convergent and divergent, process-related and final product-related. Several studies have proposed that educational intervention maybe needed in preschoolers so as to preserve the child's originality and promote interaction between convergent and divergent thinking. The purpose of such an intervention would therefore be to increase children's cognitive-creative resources before they begin obligatory education.

Several studies have analyzed the viability and efficacy of programs geared toward promoting creativity in preschoolers. For example, Cliatt, Shaw, & Sherwood (1980) investigated the effects of an 8 weeks training procedure on the divergent thinking abilities of kindergarten children. Results showed the experimental group to be significantly superior on three measures of verbal creative thinking. Mohanty and Hejmadi (1992) compared the effectiveness of three types of training (verbal only, verbal plus movement, and verbal plus movement plus vocalization), establishing that all three brought about improvement over a control group, and that said improvement was greater the more expressive modalities were trained. Antonietti (2000), meanwhile, demonstrated the efficacy of a training program in analogies in children 5 to 7 years-old. It involved searching for analogies related to a story and identifying similarities, among other activities. The positive effects after 6 months of intervention affected various areas of child development, above all creativity. Castillo (1998) also investigated the effects of an analogical reasoning training program and concluded that enhancing young children's ability to understand and learn from analogies and metaphors has useful and varied classroom applications.

Furthermore, Prieto, López, Bermejo, Renzulli, and Castejón (2002) worked with preschool and early primary school students, finding that improvements in creativity varied depending on the factor of creativity being assessed, the type of focus, and on educational level. Their program had the greatest impact on the flexibility and graphic originality aspects of creativity and was most effective at the preschool level. Lee, Bain, and McCallum (2007) investigated the effects of training in divergent thinking (with explicit instruction) on problem-solving tasks in a sample of Third Culture Kids (Useem & Downie, 1976). They reported the effect of giving explicit instructions to improve originality and fluency was evident in classroom-based worksheets, on the Torrance Tests of Creative Thinking, and on the Realistic Story Telling Problems. Those results imply that relatively simple, explicit instructions emphasizing originality or fluency can help children adopt effective problem-solving stances while constructing their new cultural environment. Finally, Komarik and Brutenicova (2003) found that their