



## Exploring the relationship of creative thinking to reading and writing

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### ABSTRACT

This study explores if extensive practice in reading or writing is related to high creative performance. In total, 196 university students participated in the study by filling out a questionnaire and completing a creativity test. The questionnaire inquires the total courses taken in the school year, total hours spent on reading, total hours on writing, and background information. The results indicated that students who spent more time on reading/writing performed significantly better on the creativity test. This study concludes that creativity scores, especially scores of elaboration, are significantly correlated with attitudes toward reading/writing, and the amount of time spent on reading/writing.

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## 1. Introduction

A significant amount of current research in education (Amabile, 1983, 1985, 1989; Brown, 1989; Guilford, 1981; Plucker, Beghetto, & Dow, 2004) has recognized that creative abilities are essential in solving complex individual, social, and global problems. The world now is faced with ever-increasing problems that require solutions from creative talents. Education around the world aims at developing not only knowledgeable workers but also creative thinkers. With such understanding, promoting creativity has emerged as a major educational issue in Taiwan (Le Métais, 2003; Pan, Yang, Chou, & Hong, 2003; Sharp & Le Métais, 2000).

International comparisons on test scores of mathematics and science have shown that students in Taiwan perform better than their counterparts in many other countries (Chen & Stevenson, 1995; PISA, 2006; Stevenson & Stigler, 1992; the TIMSS, 1995, 1999, 2003, 2007). However, test scores of creative thinking have not shown similar outstanding results (Wang, 2007; Wang & Chu, 1975), nor have the test scores of reading literacy (PISA, 2006). After reviewing the test scores, some may wonder why students who are good at solving math problems are bad at solving creativity problems, and also poor at reading literacy. Is this because reading literacy and creative thinking require different abilities from solving math problems? Could similar performances on creative thinking and reading literacy imply that there is a link between the two?

In the above international comparisons, creative performance has been referred to as the results of a creativity test. This study, using a similar creativity test (the Abbreviated Torrance Test for Adults, the ATTA), adopts the Torrance research definition (1965, 1966, 1988): Creative thinking is the ability to sense problems, make guesses, generate new ideas, and communicate the results. With this view of creativity, Torrance (1988, 2000), and also Taylor and Sacks (1981) have suggested that creative potential exists among all people and can be improved through learning. Based on this conception, many

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researchers (McVey, 2008; Sak, 2004; Scanlon, 2006; Smith, Paradise, & Smith, 2000; Sturgell, 2008) have advocated the idea that creativity can be encouraged through learning activities, especially reading and/or writing.

Thinking skills are closely related to language development (Piaget, 2002; Vygotsky, 1986), and it is highly possible that creative thinking has a certain connection with reading and writing abilities. According to the literature (McVey, 2008; Sak, 2004; Scanlon, 2006; Smith et al., 2000; Sturgell, 2008), creativity is consistently associated with the abilities that are required for reading and writing. The traits that are encouraged by reading and writing appear to have the same characteristics that creativity researchers suggest foster creativity, such as the freedom and ability to communicate ideas (Amabile, 1996; Beghetto, 2005; Cropley, 1992, 1997; Gardner, 1988; Torrance, 1992), an emphasis on self-discovery (Amabile, 1996), and attention to the individual (Albert, 1980; Harrington, Block, & Block, 1987). Also, when examining the relationship between creative abilities and test scores of different subjects, Wang (2007) discovered that the creative ability of elaboration significantly and positively correlated with English reading and writing scores, but not with math scores.

A large body of research explores if learning activities in the classrooms can contribute to creative development. Some studies (Branowsky & Botel, 1974; Messman, 1991; Otto, 1991; Sak, 2004), targeting gifted children or children in general, endorsed the idea of fostering creativity through classroom reading and writing activities. Other studies (Annis, 1998; Chen, Bernard, & Hsu, 2005; Zachopoulou, Trevas, & Konstadinidou, 2006) endeavored to design creativity courses through different learning activities, including reading and writing for preschool children and college students. The above studies provided qualitative observation of how structured reading and/or writing activities in the classrooms encouraged students to generate creative ideas and projects.

However, there seems to be little evidence about fostering creativity through personal learning activities. No empirical-based evidence has indicated if personal reading or writing habits or practices, especially unstructured and unorganized activities outside the classroom, are related to the development of creative thinking.

## 2. Purpose of the study

Therefore, the primary objective of this study is to understand if personal reading or writing practices are related to personal creative performance. By comparing the creativity test scores of students with their self-reported scales on attitudes, habits toward reading and writing, and the hours spent on reading and writing activities, this study explores if there is any correlative link of creative thinking to reading and writing. With statistical evidence, this study attempts to understand if students who enjoy reading and/or writing, who have the habit of regular reading and/or writing practices, or who spend more time on reading and/or writing would perform better on a creativity test.

## 3. Significance of the research

Even though creative abilities have been viewed as critical in many endeavors, such as art, science, medicine, and business, research about how education can promote creativity has not been as extensive as expected. Research that aims toward promoting creativity tends to focus on planning a creative way to teach a certain subject (e.g., Chen et al., 2005), or designing a special program outside the regular curricula (e.g., Zachopoulou et al., 2006). Whether creativity can be developed through regular personal practices (extensive reading, habitual writing, regular reading and writing courses within regular curricula) have not been properly addressed. This study can be beneficial for all students, especially those who are not in any gifted program, or those who cannot afford to take any special program outside the regular curricula, if it can be shown that any regular practice has value for fostering creative thinking, and also if it provides empirical evidence that verifies the assumption that extensive reading and writing facilitate creative performance.

## 4. Defining creative thinking

Before discussing in detail creativity research, it is necessary to define the concept of creativity in this paper. As mentioned earlier, Torrance (1988) and Taylor and Sacks (1981) advocated everyday creativity. Following this notion, a growing number of researchers (e.g., Craft, 2001; Duffy, 1998; Feldman, 1999) have viewed creativity as everyday, i.e., a necessary thinking skill for everyone. Utilizing this conception, Torrance (1965, 1966, 1988) defined creative thinking as the ability to identify problems, make guesses, produce new ideas, and communicate the results. As Duffy (1998) suggested, creative thinking is the ability to see things in new and original ways, to learn from experience and relating it to new situations, to think in unconventional and unique ways, to use non-traditional approaches to solving problems, and creating something unique and original.

Using the same definition, Goff and Torrance (2002) developed the ATTA, a creativity test. This test assesses creative thinking ability which includes the ability of fluency (the fluency of ideas), the ability of originality (the uniqueness of ideas), the ability of elaboration (the details of an idea), and the ability of flexibility (the variety of ideas used to solve problems). Adopting the ATTA as a measurement tool for creative thinking in this study, creative performance in this paper means the test results of the ATTA. The detailed description of the ATTA, including the reliability and credibility, appears in the section of measurement tools.

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