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From perception to creative writing: A multi-method pilot study of a visual literacy instructional approach

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ABSTRACT

Visual literacy is the set of skills used to ascertain meaning in visual stimuli (e.g., visual art, pictures, or abstract representations). We present a new visual-literacy based instructional approach—and its underlying theoretical model—in which museum educators introduced children and their teachers to works of art in a museum setting, then guided teachers to bring visual images and art objects into the classroom to present children with new visual experiences, increase their visual and verbal skills, and, ultimately, promote their development as writers. A set of three multi-method exploratory studies is then presented to examine key aspects of the instructional program: (a) observations of children's verbalizations in a group discussion of a work of art before and during exposure to the program; (b) examination of story-writing skill development in a pre-posttest control-study design; and (c) retrospective interview analysis, tracing the underlying thinking processes engaged during a visual-literacy based writing activity. Although the new instructional approach presented here is still under development, preliminary results show promise that visual-literacy practices may facilitate children's development of writing skills with regard to vocabulary, narrative structure and originality, through a better sense of observation and increased inferential thinking.

Developmentally appropriate curriculum practices capitalize on what children bring to school from the world they have come to know through images, sounds, and symbols. This emphasizes the multimodal nature of communication, meaning-making, and the acquisition of literacy. Hence, researchers have studied for decades the role of visual images, drawing, and oral language in promoting children's literacy (Albers & Harste, 2007; Dyson, 1982, 1983, 1986, 2001; Harste, Leland, Grant, Chung, & Enyeart, 2007; Harste, Woodward, & Burke, 1984; Heath, 1983; Kendrick & McKay, 2004).

Building upon multiple theoretical and evidence-based premises of visual-literacy-based instruction (e.g., Burton, Horowitz, & Abeles, 2000; Calkins, 1986; Cowan & Albers, 2006; Ernst, 1997b; Housen, 1992; Short, Kauffman, & Kahn, 2000; Trainin, Andrzejczak, & Poldberg, 2005), here we explore the effects of a new instructional approach to literacy—based on the Perception, Interpretation, Expression (PIE) model of writing development (Tan et al., 2012)—that aims to improve writing skills by practicing visual literacy skills. After presenting the theoretical foundations of this instructional approach we report on a set of three exploratory studies designed to capture change under the influence of this instructional approach. These studies use complementary methodologies, to tap into the major components of the model: verbalizations stimulated by an authentic work of art, written expression development, and the thinking processes that connect both modalities.

1. Implementing visual literacy in the classroom

1.1. Visual literacy and its use in teaching practices

1.1.1. Defining visual literacy and exploring its contribution to writing

Although there are many accepted definitions of visual literacy (Avgerinou & Ericson, 1997), it is often broadly defined as the ability to discern meaning in visual images (e.g., Yenawine, 1997). This can range from identifying or naming what is seen, to more complex activities, such as questioning, analyzing, categorizing, or interpreting. Hence, visual literacy calls upon many aspects of cognition, such as identification, analysis and inferencing (Yenawine, 1997), the practice of which may support the development of writing and creative outcomes at various levels of expertise (Flower & Hayes, 1981). Indeed, several lines of evidence have supported this connection between visual literacy and writing.

First, visual literacy is based on vision, the most dominant of all sensory systems in humans. More areas of the brain are devoted to visual processing than to any other sense, and visual areas develop

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sooner than other cerebral regions required for reading and higher-level thinking (Gogtay et al., 2004). Consequently, the development of visual skills may support other developing skills. For example, forming visual associations may help young readers to enhance their comprehension (Gernsbacher, Verner, & Faust, 1990), which is consistent with contemporary brain imaging findings (Speer, Reynolds, Swallow, & Zacks, 2009). By extension, it is likely that visual skills may nurture mental imagery, thereby enhancing writing descriptions or idea generation in creative writing work. In accordance with this idea our previous research showed that experts from various domain of interest (including professional writers, linguists, or teachers) tend to situate observation as the most important skill in the creative writing process (Barbot, Tan, Randi, Santa-Donato, & Grigorenko, in press).

Research also indicates that mental imagery allows writers to recall or create a mental representation of a setting, character, or event to facilitate written description, which in turn can create scenes and images in readers' minds, and arouse readers' visualization and imagination (e.g., Flower & Hayes, 1984; Sadoski, Kealy, Goetz, & Paivio, 1997; Zimmerman & Risemberg, 1997). Thus, the use of imagery in writing (the elements in a literary work used to evoke mental images) enhances the overall quality of writing, as extensively reviewed and empirically confirmed by Sadoski et al. (1997) and others (e.g., Berrian, Metzler, Kroll, & Clark-Meyers, 1979). Several studies have also underlined the increased originality of written compositions when the instruction for the writing task involves the use of imagery (Jampole, Konopak, Readence, & Moser, 1991; Long, Hiebert, Nules, & Lalik, 1985; Martindale, 1990; Short et al., 2000).

A final line of evidence for the case of visual literacy in writing and its development has focused on the mental processes underlying the transition between visual and verbal activities (e.g., looking and reading, drawing and writing). Dyson (1986), for example, proposes that drawing and talking are active parts of the process of becoming literate and learning the complex system of written language. This hypothesis is built upon Vygotsky's (1978) precept, according to which children learn to manipulate complex symbolic systems of expression (e.g., writing) based on earlier learned, less complex symbolic languages, such as gesture, speech, and drawing. It is also proposed that the "translation" or "transmediation" between two symbolic systems (such as verbal language and pictorial) results in the generation of new ideas as writers invent the connections between the two systems (Siegel, 1995; Suhor, 1984).

Research on the stages of writing development supports these observational studies of children transitioning between visual and verbal modes of communication to writing. According to one theory of writing development, the earliest developmental stage is "knowledge telling", that is, creating or retrieving what one wants to say (which could be in the form of a visual image) and then generating text to say it (Kellogg & Whiteford, 2012). There is evidence that teachers can support this stage in early childhood by encouraging children to say what they think and write what they say (Berninger, 2009; Berninger & Chanquoy, 2012).

1.1.2. Visual literacy in the writing curriculum

Because components of visual-literacy such as observation and the production of mental imagery are often described as significant contributors to creative writing, particularly within the theoretical context of multi-modal learning (Albers & Harste, 2007; Jampole et al., 1991; Long et al., 1985), it is not surprising that bridges between visual art and writing have been suggested. Whether grounded or not in research findings, incorporating the visual arts into classroom literacy instruction has been a popular instructional method among teachers (e.g., Danko-McGhee & Slutsky, 2007; Ehrenworth, 2003; Ernst, 1997a; Harste et al., 1984; Kress, 2000; Mulcahey, 2009; Olsen, 1992; Olshansky, 1994; Tooley, 2009; Whitin, 2002; Zoss, 2007). Some classroom teachers have embraced established programs, such as *Picturing–Writing* (e.g., Olshansky, 1994), in which students mine their artwork for images, ideas and stories, using their artwork to inform their writing. Other teachers have developed lessons from personal experiences (e.g., Williams, 2007). For example, Ernst (1994, 1997b), an art and English teacher, combined the writers' workshop model with the artists' workshop model in her own art classes to help children connect their thinking processes with their art, and then locate and express the meaning in their own art in writing.

The generally conceived idea that art education enhances thinking and learning, and may therefore serve a prominent role in the school curriculum, traces back at least as far as Dewey (1934), and has been carried forward by scholars such as Eisner (2002) and Greene (2001). Burton et al. (2000) suggest that the interactive relationship between learning in the arts and learning in other subject areas can result in increased skills in meaning making and problem solving. Housen (1987, 1992) established five successive stages of esthetic development that focus on strategies for drawing meaning from works of art. In the "Accountive Stage", viewers are "storytellers," using their own knowledge, personal associations, and information from their senses to create a narrative understanding of a work of art. Based on Housen's work, Downey, Delamatre and Jones (2007) found a positive transfer of critical thinking skills from visual to written text, in response to a museum–school intervention. Generally, museum–school programs have been documented as an important means of linking learning in the arts with learning in "core" subject areas (Burchenal & Grohe, 2007; Catterall & Waldorf, 1999; Tan et al., 2012; Tishman, MacGillivray, & Palmer, 1999).

1.2. A visual literacy-based instructional approach to improve writing outcomes

Following the promise of visual-literacy-based instruction reviewed above along with a growing body of research on the role of visual literacy in children's writing development, we devised an innovative instructional approach through a partnership between museum educators at the Yale Center for British Art (YCBA) and classroom teachers in Connecticut. The main goal of this program was to develop writing skills—particularly vocabulary, narrative structure, and originality—through a combination of multiple "literacies." The conceptual grounding for the articulation of these multiple literacies is based on a theoretical model developed in related work (the PIE model; Tan et al., 2012). We now present the main principles of this model and its implementation through our instructional program.

1.2.1. The PIE model

The PIE model is grounded in the theoretical conception that writing skills develop through the combination and extension of multiple "literacies." Specifically, the PIE model integrates three basic lines of research evidence (reviewed above): that (a) visual literacy capitalizes on the dominance of vision as a form of perception; (b) mental imagery may facilitate written description, which in turn can activate readers' visualization and imagination (e.g., Flower & Hayes, 1984; Sadoski et al., 1997; Zimmerman & Risemberg, 1997); and (c) there are mental processes underlying the transition between visual and verbal activities (e.g., looking and reading, drawing and writing) that may result in the creation of new conceptual connections (Siegel, 1995; Suhor, 1984). The PIE model may then be integrated into literacy instruction based on the following principles: that (a) there are processes (cognitive, conative, linguistic) contributing to the relationship between visual, verbal, and written expression that may be targeted as catalysts of learning; (b) these processes (the key elements of the PIE model) can be improved using visual literacy-based instruction; and (c) the museum–school partnership model, as a new teaching context that locates art in literacy learning, can be an effective facilitator of writing development (Tan et al., 2012).