How Would Executive Functions Play a Role in Comprehending Art?

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**Abstract**

This study is a theoretical attempt to explain the relationship between the components of executive functions and comprehending art. Specifically, the study examined the specific executive functions’ (i.e., inhibitory control, suppressing irrelevant information, and sustained attention) role in comprehending art. Cognitive skills that rely on paying attention to relevant cues rather than prevailing yet irrelevant features and sustained attention are used in the process of comprehending artwork. Suggestions are made for early childhood teachers regarding how art can be used to improve children’s executive functions.

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**Introduction**

Comprehending art\(^1\) involves registering the physical attribution of an artwork and its symbolic attribution, namely what it represents or personal meaning assigned to the artwork. The person who is interpreting the artwork must be able to hold these two attributions simultaneously so that assigning symbolic meaning to artwork becomes possible (see Harris, 2000). While registering the physical attribution of the artwork such as color, shape, and the material the artwork is made out of can be less subjective, however what the artwork represents can be highly subjective. The less subjective aspect is necessary for a person to attribute symbolic meaning to the artwork, which is the subjective process involved in comprehending art. Alternative interpretations of the artwork require the person to have mental flexibility.

Approaching artwork without such flexibility would result in deficiency in comprehending the artwork and reducing it to a purely physical material rather than a symbolic material.

The characteristics of comprehending art have significant associations to the process involved in executive functioning. Executive functions refer to a set of “‘higher-order’ cognitive processes required for goal-directed behavior, which includes inhibitory control, working memory, strategy generation and implementation, shifting between subordinate tasks, and monitoring” (Gizer, Harrington, & Waldman, 2009, p. 2). Executive functions are cognitive abilities that are “executive” in nature guiding our lives (D’Esposito, 2003).

Although executive functions have been a very active area of educational and psychological research, there is no literature addressing the relationship between executive functions and their role in the comprehension of art. This research is aimed to shed some light on the very

\(^1\) In this paper, comprehending art does not refer to the notion that there is only one way of understanding the artwork. Comprehending art should be perceived as assigning meaning to the artwork, which varies from individual to individual.
complex nature of the relationship between executive functions and artistic appreciation. It is not the aim of this study to provide a comprehensive theoretical explanation of how each executive function plays a role in comprehending art. This study focuses on certain executive functions, not all, and their role in comprehending art.

Like in the case of language, executive function skills are not developed or available for use at birth. Executive skills unfold over time influenced by the genetic makeup and the environmental factors. Soon after birth, these skills begin showing slow development and reach to its mature level when the individual becomes an adult. (Dawson & Guare, 2010). While it is widely recognized that deficits in the executive functions are linked to damaged or dysfunctional frontal lobe, it should be noted that the frontal lobe is not the only brain area that is involved in executive functions (D’Esposito, 2003).

**Inhibitory control and comprehending art**

Inhibitory control involves cognitive abilities that are utilized to constrain prevailing response versus less dominant response (Ginexi & Robertson, 2011). Cognitive psychologist and neuroscientists propose that inhibitory control has a crucial role in self-regulation and cognitive/behavioral flexibility by enabling the individual to delay a response that is dominant (Barkley 2001; Diamond et al. 2005; Miyake et al. 2000 as cited in Ginexi & Robertson, 2011). To examine what involves comprehending art, Harris’ (2000) identification of the characteristics of early artwork made in the Upper Palaeolithic period is important to note here. To him, artworks (a) are socially distinguishable and produced in a collectivist way, (b) a mismatch occurs between the actual situation in which the artwork are made and exhibited and the imagined world that they represent, (c) requires moving between the two states; actual physical features and what these artworks mean. In Harris’ (2000) terminology the less subjective part is about the actual situation while the subjective part is about the imagined world. According to Harris, (2000) in order for a person to extract meaning from artwork understanding these situations (actual situation versus imagined world) and making connections, and moving back and forth between the two is necessary. If a person is unable to move from the actual situation, the physical features of the artwork, to the imagined world, comprehending the artwork as something that represents something else would be impossible. If a person has poor inhibitory control, it is highly likely for that person to be stuck with what is a prevailing response, in this case the physical features of the artworks, and may have difficulty to go beyond this physicality to assign symbolic meaning to the artwork, which is the less dominant but more relevant response. In other words, if the individual is distracted by the physical attributions of the artwork in a way that prevents the individual to go beyond this physicality, assigning meaning to the artwork becomes problematic. It is important to note that this does not mean that physical attributions of an artwork are trivial. The physical attributions of an artwork are very important as they provide a foundation for assigning meaning. Without these physical attributions, there is no artwork. However, unable to move beyond this physicality is essential for perceiving the material as an artistic material that
represents something else than what its physical attributions are about.

**Subduing irrelevant information, sustained attention, and comprehending art**

While the physical features of the artwork is essential for assigning symbolic meaning to the artwork, not all physical features of artwork has the same significance in assigning meaning to it. In this case, paying more attention to the less significant physical feature(s) of the artwork may divert the individual’s overall understanding of what that artwork is about or what that artwork represents (what the artist intended to represent or the meaning assigned by the observer which can be different than the artist’s intention). While losing attention with less relevant or irrelevant aspects of an artwork (i.e., a chip on the frame of a painting) may result in not being able to recognize “the big picture” of the artwork, another cognitive skill the observer must have is sustained attention. Understanding and/or appreciation of artwork, especially an abstract form of an art, may not take place instantaneously. The observer must maintain his or her attention and suppress anything that is less relevant or irrelevant with regard to comprehension of the artwork. This maintained attention would enable the observer to obtain enough time to process the artwork and assign meaning to it. What happens, often times, is when the observer is faced with an abstract artwork, it is not easy for the observer to assign meaning to it in a short amount of time, thus, the observer fails to maintain attention to the artwork and fails to make sense of the artwork.

**Conclusion**

It seems that executive functions play a significant role in the process of comprehending artwork. Teaching and learning art may enhance children’s executive functions. While there are several reasons to teach art and study art with children such as increasing aesthetic appreciation, incorporating art in the curriculum can also enhance cognitive skills such as executive functioning. The ability to observe a phenomenon in a critical way and reaching diverse conclusions is an extremely valuable asset in the process of educating young children. Teachers can discuss a specific artwork and encourage children to interpret it uniquely. Such discussions should be enhanced by questions that would encourage children’s both curiosity and ability to interpret differently. Including quality artwork in the classroom is a good start for teachers who not only appreciate art but also promote such appreciation. Because art is naturally attention grabbing, the use of art in early childhood settings may improve the attention span of young children. When communicating with the people who are decision makers regarding early childhood educations concerning art, the teachers should not only focus on benefits involving increasing aesthetic appreciation in children but also the cognitive benefits of such exposure and artistic discussions.

**References**


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