INTEGRATING K-12 VISUAL ART TO INCREASE CRITICAL LITERACY

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Abstract

The purpose of this review of literature was to describe how art education and visual literacy have contributed to the increase of critical literacy in K-12 students. The literature reviewed used qualitative methodology or were case studies of K-12 which data was gathered through questioning, interviews and observation. Results and conclusions from the studies indicated successful increases in critical literacy, problem-solving skills, creativity and higher-order understanding when using art and visual images within lessons. Recommendations for improving the effectiveness of the use of visual art include keeping art enrichment and classes within the public schools to enhance critical literacy, as well as fostering high arts environments across the school and curriculum.
Chapter I: Introduction

In written language different words have different meanings. The same is true for images. With the bombardment of visual images from television, books, billboards, digital media, and the internet, learning from different contexts and structures has become more important than ever. Visual literacy, critical literacy, and art education go hand in hand. Art education is the area of learning that is based upon the visual, tangible arts (Grantmakers in the Arts, 2000-2013). Critical literacy is the capacity to “see” the text differently and question everything. Using critical literacy helps the reader generate a deeper and more effective understanding of the text. Critical literacy encourages readers to question their experiences, environment and to create abstract thought (Beatty, 2013). Visual literacy is the combination of these terms; the use of images to promote critical thinking for deeper and more in depth reading comprehension.

Statement of Problem

School districts are struggling with finance, new state regulations, declining enrollment and implementation of the Common Core State Standards. With these problems, schools are forced to cut so called “non-essential” or “non-core” programs. The art community disagrees and states the “essential” importance of visual art and what art education teaches today’s students (Burton, Horowitz & Ables, 1999). Studies of visual literacy have shown that the arts, particularly visual art can increase critical thinking and comprehension across the curriculum (Beatty, 2013). Research in reading comprehension, visual literacy, critical thinking and art education provide evidence for the “essential” importance and influence of art in relation to critical literacy. However, with the push for standardized tests and traditional recall education,
how effective can art education and visual learning be for K-12 students in today’s society with curriculum structures in math, reading and science? The traditional methods of teaching critical literacy have changed and further marginalized the role of visual literacy (Bustle, 2004). As they get older, students are asked to replace visual learning with text although visual real-life learning has been shown to be a proven method for literacy.

**Theoretical Framework**

Vygotsky’s Constructivism Theory, based on how learners construct knowledge for themselves, supports the essential importance and influence of art education in correlation with increased reading comprehension (Vygotsky, 1962; 1978). Constructivism stresses the fundamental role of social interaction in cognitive development. Constructivism also suggests that community plays a central role in learning and “making meaning” (Vygotsky, 1978). One of the main bases for this theory is the idea that more capable peers help learners to advance in intellectual development. Constructivism emphasizes thinking, analyzing, understanding, and applying; all essential elements of a learner-centered collaboration for arts based education. Using real-world contexts, art educators frequently turn over the tasks at hand to the students. These active classrooms require skills, knowledge and higher-order understanding. In essence, the students question and collaborate together to solve real-world problems through managing their own education (Saraniero, 2013).

The Dual Coding Theory is another cognitive theory that influences how visual literacy is achieved. This theory focuses on how the human brain interprets visual and verbal information. The human brain uses different memory systems for different information. The Dual Coding Theory suggests a verbal memory system and a visual memory system. Verbal memory systems
encompass language and text, whereas image memory systems include all things visual, sound, taste and non-verbal thoughts (Beatty, 2013). Both the Constructivist Theory and the Dual Coding Theory suggest a close association between visual art and increased critical literacy, which leads to an important research question.

**Research Question**

Based on the looming problems schools face with the stricter standards of learning recently implemented and the omission of the arts, opportunities for visual learning are lessened. The role of visual learning is so prevalent in today’s society that there is an urgent call for high-arts infused educational strategies to promote critical literacy. What effect does art education and visual literacy have, if any, on the successful increase of critical literacy for K-12 students?

**Definition of Terms**

Key terms are necessary to understand the focus of this review. The definitions were obtained through internet searches providing multiple general definitions.

**Art Education.** The area of learning that is based upon the visual, tangible arts (Grantmakers in the Arts, 2000-2013).

**Critical Literacy.** An instructional approach that advocates the adoption of critical perspectives toward text. Critical literacy encourages readers to actively analyze texts and offers strategies for uncovering underlying messages (Park, 2012).

**Critical Thinking.** The ability to make a judgment, consider merit or worth, accuracy, relevance, and logic. Critical thinking involves analysis, synthesis, and evaluation. Other
aspects of critical thinking can include metacognition, problem-framing and resolving (Dictionary.com, n.d.).

**High-Arts Environment.** An art-intensive setting for learning in all subjects; art-infused (Burton, Horowitz & Ables, 1999).

**Reading Comprehension.** The ability to understand what one has read (Brummitt-Yale, 2008-2012).

**Visual Art.** Art forms that create works which are primarily visual in nature, such as ceramics, drawing, painting, sculpture, architecture, printmaking, modern visual arts (photography, video, and filmmaking), design and crafts (Dictionary.com, n.d.).

**Visual Literacy.** The ability to interpret, negotiate, and make meaning from information presented in the form of an image. Visual literacy is based on the idea that pictures can be “read” and that meaning can be communicated through a process of reading (Hattwig, 2010).

**Summary**

Critical thinking is essential for students in education today. The combination of art education, visual literacy and reading can be a powerful tool for the development of critical literacy. Through a review of literature and analysis of research findings, this paper will describe the effects art education and visual literacy have, if any, on the successful increase of critical literacy for K-12 students.
Chapter II: Literature Review

Technology is rapidly changing how visual images are used. Non-linguistic forms of communication have become integrated within a K-12 student’s culture. Children are taught from a very young age that pictures have meanings (Martens, Martens, Doyle, Loomis & Aghalarov, 2012). Through their lifetime, learning how to “read” images seems to be taken for granted and set to the side even though their exposure to images increase. Yet viewing the world creatively is supposed to be an asset and we celebrate and appreciate the accomplishments of inventors and thinkers from Van Gogh to Steve Jobs (Olien, 2013). While in reality, constructing meaning through non-linguistic systems of communication is a skill that must be taught (Eisner, 1985). The majority of the empirical studies examined for this literature review engaged K-12 students with visual images to promote critical literacy. Varying methods were used in data collection including observation, interviews and recorded sessions. Topics of review include the effects of social interaction with visual and critical literacy, the effects of promoting individual learning and visualization, and the effects of making connections between visual and critical literacy.

Effects of Social Interaction with Visual and Critical Literacy

As children grow they are constantly learning sounds, sights, gestures, smells and touch. Each of these actions becomes meaningful through interaction with others. Meanings cannot be created alone, therefore learners are able to create meanings through social interactions (Whitin, 1996). Vygotsky’s Constructivism (Vygotsky, 1962; 1978) is based on his belief that all learning is rooted in social action. Visual and critical literacy are enhanced by social interaction.
Art programs and the integration of art related teaching strategies promote the growth of collaborative learning.

Social sharing of various interpretations and text during class conversations encourage all members of the classroom community to benefit from one another’s experiences and ideas. In a qualitative study, Whitin (1996) investigated the evolution of sketching to explore how visual tools help students enrich their understanding of text. A yearlong study followed two 7th grade language arts classes in their exploration of “sketch-to-stretch.” “Sketch-to-Stretch” is a method in which students create non-linguistic signs to signify ideas generated through reading. Non-linguistic sign systems include drama, art, dance, mathematics and music. Set symbols representing specific meanings do not exist in art, therefore students are forced to think critically and invent symbols to convey their understanding. Through listening, close observations, reflections, and student interviews, data was collected and analyzed by Whitin and the students. With a focus on the exploration of pie charts and regulated sketching, Whitin was able to observe the use of new personal codes with broad cultural references. The students demonstrated that sketching and sharing visuals helped them to open the potential of literary interpretation and provided opportunities for critical thinking. Analysis showed that the use of tools from non-linguistic sign systems deepened their understanding of theme, conflict, and character relationships (Whitin, 1996).

The Guggenheim Museum also found a correlation between art education, social learning, and increased literacy. In the Guggenheim Museum’s program entitled Learning Through Art, a study was conducted involving over 500 students selected for specific demographics, socioeconomic and literary criteria from four schools in New York City. The 3rd grade students involved in the four year study were measured on their ability to describe and
interpret art and to apply these skills to understanding written text. Two of the schools were the control group and did not receive the Learning Through Art programming, while the other schools received specific instructional programming in line with the New York State English Language Arts Learning Standards. To minimize the variables present in study selections, the 3rd grade classes from each school were selected at random. Through observations, case studies, rubric-based interviews and student test scores, professional evaluators gathered and analyzed data to answer the primary question: Does looking at and making art teach students how to be better critical thinkers? The data suggested that the Learning Through Art program does help students become better learners and thinkers. Learning Through Art positively impacted students and found a strong correlation between their participation in the program with improved critical thinking and literacy skills. Improvements in participants were found in discussions of both works of art and text selection. The participants demonstrated they had transferred critical thinking skills learned in discussing works of art to interpreting texts (Korn & Associates, 2007).

**Effects of Promoting Individual Learning and Visualization**

To deeply understand characters within texts and illustrations students must consider the visual. A 2nd grade class consisting of 12 students was asked about the kinds of pictures used to gain insights into the characters seen in picture books. The children made a variety of inferences about the characters by using the illustrations alone. Although the students did not talk about specific symbols or devices intentionally used by illustrators, particular attention was paid to character action, expressions and the way characters related to one another. The findings suggest that young children use visual information to better understand literature, yet students need more instruction on what to look for. For instance, during this study pictorial devices were used in justifying the children’s inferences about characters. Most of the students drew on the
understanding of the elements of color and line. Only a few children picked up on the illustrator’s manipulation of size, the position of characters within the illustration, and the breaking of frames that surrounded illustrations. The study suggests that teachers help children learn about the illustration and text clues by preparing for and carefully orchestrating read-alouds. Teachers should build their own understanding of how illustrators convey meaning through art. Through researching about illustration and careful selection of picture books, teachers can help students learn the elements and principles used by most artists (Prior, Wilson & Martinez, 2012).

The way we look at visual images seems to be effortless and automatic, however the quick attention students pay to the task of visualization is not enough. “The increasingly varied ways we visualize our world require students not just see, but look” (Berry, Felten & Little, 2010, p. 44). Just as speaking, writing, and drawing require instruction and practice, so does the art of looking. We need to help our students “see.” With the integration of visual literacy, students begin to understand how to individually take control of their own interaction with images. Students can tie together critical analysis of text, their personal experiences, and the world around them and take responsibility for their own learning. Educators can help students learn to “look” through the use of questioning, discussion and critique. Understanding how images make meaning is the key to promoting visual literacy. The ideas promoted by Katherine Martinez (1995) suggest that images can be used as illustrations, a means for interpretation and as illumination. These ideas assess whether educators are using images just as entertainment or in ways that evoke critical and visual literacy and disciplinary learning. Illustrations are the most common images used by educators to provide visual interest rather than inviting students to discuss and analyze. Asking student to engage more deeply with images creates a means for
interpretation. The tools we use to collect images and our examination of the images created change how we think about the world and our experiences within it. Through discussion about observations, inferences and interpretations, students discover what they missed with cursory glances. An understanding of how images are composed with intention and design is the beginning of “learning how to look” when it comes to visual literacy. Images can become an illumination and an integral part of the learning experience. New perception on any given topic would not be learned the same without images. Images simultaneously engage thinking and emotion. Images can promote new understanding and deepen engagement with a subject. Using images within any form of an educator curriculum helps to bridge the understanding of seeing more critically with the art of composing visual forms (NEA, 2010).

**Effects of Making Connections between Visual and Critical Literacy**

Different kinds of questions can be asked of images. For example, an everyday image or advertisement for a food item may prompt student discussion about food chains, production and distribution of food, the effects of eating certain types of foods or how food advertisement affects consumer choices. Critical discussions can develop curiosity and learning with the exploration of one single image. Images can also prompt critical questioning in literature. Introducing texts with a visual element often evokes interest and further discussion, including the students own personal story behind the image (Roswell, McLean, & Hamilton, 2012). With student understandings of how to read an image, come the connections made within a written text. Applying critical thinking toward images and text in the classroom encourages students to apply critical literacy in other areas. Historically, studies of integrations of art programs into literacy learning are scarce. Narratives that speak of the successful collaboration of art, visual literacy and critical literacy are not considered objective or rigorous enough in today’s policy climate
Visual art related experiences of over 2000 students from 18 schools in 4 states were examined. In high arts environments, students tested, on average, 52% higher in creativity, fluency, originality, elaboration, and the ability to keep open to new possibilities long enough to create original ideas, also called resistance to closure. The Learning In and Through the Arts case study also looked at teacher student relationships in high arts environments. Over the course of the study, through observation and interviews, teachers attributed many positive features of their in-school climate to the arts. These teachers work in art-rich schools that favor change and experimentation, including flexibility in curriculum design. With less emphasis on conformity, teachers related they had good affiliations with staff and students and demonstrate more interest in their work. Taken collectively, the cumulative data in this case study offers a very complex and multi-dimensional look at arts learning in relation to art-infused programs and critical literacy (Burton, Horowitz & Abeles, 1999).

Another advocate for the arts, Elliot Eisner (1985), advocates art should be studied for its own sake, although compelling evidence exists for an art-infused education. Eight schools in southern California examined the effects of art-infused learning in language-arts, math, science, and history. Middle level classes were selected for their diversity. The focus groups included English learners, students from economically disadvantaged families and students from varied racial/ethnic backgrounds. Through observation and interviews data was collected and the impact on middle level learning became evident. Art-infused lessons exemplified a positive classroom climate developmentally responsive to the characteristics of middle level learners. Constructs essential to early adolescence include creativity, problem-solving, communication, collaboration and construction of knowledge. Art-infused learning was designed to challenge and engage middle level students. Middle school student characteristics, by nature, are
exploratory and art-infused learning enables them to connect the curriculum of any given subject to their own life experiences. Curriculum art-integration occurs in several ways. On one level, the teachers integrated language arts learning experiences into history, math and science where reading, writing, listening and speaking were directly involved. On another level, visual arts were most often used within language arts, math, science and social studies. Some activities included making Egyptian sarcophagi, drawing science lab experiments, and recording perceptions, inferences and response to written questions following the careful examination of a Chinese art print. In essence, visual arts were used to increase engagement, make meaning and formulate critical literacy in subjects other than art (Lorimer, 2011).

Chapter III: Results and Analysis Relative to the Problem

Dual Coding Theory and Vygotsky’s Constructivism speak to the importance of visual learning. The human brain can increase its capabilities through art-infused curriculum to formulate abstract thoughts with the help of visual literacy. Student’s skills of critical thinking, problem solving and visual communication can deepen with inquiry into aesthetic, critical and creative questions (Lampert, 2006). We strive to teach students how to think and “see” with abstract ideas. Visual and critical literacy are generated in K-12 classrooms through art education and must be included.

Positive Influence

Although some arts education researchers are not so sure of the positive influence of art-infused classrooms, studies have shown that art and what art teaches should be valued just as highly as any other “essential” subject. That art is an important human way of understanding and knowing and should be a basic part of what we expect our children to learn (Eisner, 1996).
Art education and visual literacy have demonstrated a positive influence for the increase of critical literacy in K-12 students. Experimental evidence of transfer of these positive influences may be difficult to generate. Studies indicate a strong correlation between arts involvement and higher academic achievement (Caughlan, 2008). With inclusion of art education and visual literacy, students strive harder to find solutions, ask creative questions and work collaboratively; all components of critical literacy.

This paper sought to determine the effects art education and visual literacy have, if any on the successful increase of critical literacy for K-12 students. Based on the research, the inclusion of art-based programs does increase critical literacy. With the use of visual tools, such as “learning to look,” students can enrich their understanding of written text using critical perspectives (Whiten, 1996), With careful selection of texts and lessons heavily based in visual arts, students demonstrated they had transferred critical thinking skills to interpreting, questioning and analyzing texts across the curriculum (Korn & Associates, 2007).

Chapter IV: Recommendations and Conclusions

Creating an Effective Art Based Program

Although learning through art is complex and multi-dimensional, visual art extends the meanings that can be expressed through language. Therefore art is a natural partner to critical literacy (Berry, Felten & Little, 2010). The evidence shows that critical literacy and an art-infused program can co-exist and benefit students with deeper learning. New and different layers of interpretation are discovered through arts based learning while embracing social discussions and independent thinking.
An effective art-based program should encompass art integration across the curriculum. Teachers willing to infuse art lessons within their curriculum can increase critical literacy in their students. The art of visual learning, critiquing and questioning should go beyond the perceptions education has thought what a typical art room to be. If you put art into every lesson, students will engage more readily with the topic and the text. Integrating art can be as simple as analyzing the cover of a book, or drawing a quick sketch of what you think a character or historical figure looks like. The important thing is to use visual images to spike interest, critical thinking and hands-on learning in the promotion of an environment where students are engaged and passionate about the materials before them.

Suggestions for Teachers

Teachers like to work in schools that favor change and experimentation (Burton, Horowitz & Abeles, 1999). If teachers are given the opportunity to take risks, learn new skills, and broaden their curriculum, they will. Unfortunately many school systems overlook the importance of art to the learning experience (Hopper & Miller, 2010). Schools should keep in mind that enrichment in their student’s curriculum and education may be a way to enhance critical literacy.

The increase of critical literacy through art-infused environments helps teachers be more creative, have better rapport with their students, and higher interest in their work (Burton, Horowitz & Abeles, 1999). Teachers need to keep the arts in mind across the curriculum. Sometimes including art for critical literacy can be as simple as reexamining how we accomplish routine classroom assignments (Seglem & Witte, 2009). Instead of the standard reading and answering questions in a textbook, students could examine critique and analyze images from a
certain era or view and discuss art and artifacts to learn about a certain culture. The arts develop
children’s minds in powerful ways and help them ask critical questions to foster understanding in
all subjects. When children learn how to critically look at images through the progression of art
in time or the design of a work of art, they can transfer those critical thinking and problem
solving skills to all areas of their education.

Although general research can be found on the effects of visual learning in the classroom,
quantitative research is needed on the exact effects K-12 art programs have on learning in
regards to critical and visual literacy. Further study is also needed in regards to schools with art
programs and those without. Are students learning as effectively without a school wide art
program? Do critically viewing images and the design of artwork through a student’s school
career make any difference in achieving the Common Core State Standards? Critical literacy,
visual literacy, and art education may influence students learning and help them to “see” clearer.
At the same time art education broadens student’s exposure and life experiences while
transferring critical skills to other academic learning. In essence art is “essential”.

References


