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## Visual Literacy ⓕ

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## Summary and Keywords

Visual literacy was originally defined as a set of *visual competencies* or cognitive skills and strategies one needs to make sense of visual images. These visual competencies were seen as universal cognitive abilities that were used for understanding visual images regardless of the contexts of production, reception, and dissemination. More contemporary definitions suggest visual literacy is a contextualized, social practice as much as an individualized, cognitively based set of competencies. Visual literacy is more aptly defined as a process of generating meanings in transaction with multimodal ensembles that include written text, visual images, and design elements from a variety of perspectives to meet the requirements of particular social contexts.

Theories of visual literacy and associated research and pedagogy draw from a wide range of disciplines including art history, semiotics, media and cultural studies, communication studies, visual ethnography and anthropology, social semiotics, new literacies studies, cognitive psychology, and critical theory. Understanding the various theories, research methodologies, and pedagogical approaches to visual literacy requires an investigation into how the various paradigm shifts that have occurred in the social sciences have affected this field of study. Cognitive, linguistic, sociocultural, multimodal, and postmodern "turns" in the social sciences each bring different theories, perspectives, and approaches to the field of visual literacy. Visual literacy now incorporates sociocultural, semiotic, critical, and multimodal perspectives to understand the meaning potential of the visual and verbal ensembles encountered in social environments.

Keywords: visual literacy, multimodality, visual culture, semiotics, media literacy

> "And what is the use of a book, thought Alice, that has no pictures or conversation in it."
>
> —Lewis Carroll

date: 12 March 2017

Theories of visual literacy and associated research designs and pedagogical approaches draw from a wide range of disciplines including art history, semiotics, media and cultural studies, psychology, communication studies, anthropology, social semiotics, new literacies studies, and critical theory. Understanding theories, research, and pedagogical approaches to visual literacy requires an investigation into how the various paradigm shifts that have occurred across the disciplines associated with the social sciences have affected this field of study. Cognitive, linguistic, sociocultural, multimodal, and digital "turns" in the social sciences each bring different theories, perspectives, and approaches to the field of visual literacy.

Visual images play an ever-expanding role in the communicative landscape of contemporary societies (Sturken & Cartwright, 2001). Inhabiting a world mediated by visual images and multimodal texts in both print and digital environments, people are constantly involved in a wide range of literacy practices that incorporate socially embedded discourses (Gee, 1992), multimodal communications (Kress, 2010), and digital technologies (Gee & Hayes, 2011). In what has been referred to as the "pictorial turn" (Mitchell, 1986), the focus on images as simply entertaining or illustrative is being replaced by the notion that images are central to modes of representation, communication, and the processes of interpretation.

The expanding field of visual literacy combines psychological theories of perception with sociocultural and critical aspects of visual design, social semiotics, and cultural studies. Merging physiological and cognitive theories that focus on vision and perception with the social and cultural aspects of visual literacies allows for a more inclusive and expansive approach for understanding visual images. Researchers working with visual literacies need to consider the implications of the communicative and representational resources, discourses, and technologies that support encounters with visually dominant texts and multimodal ensembles and the potential effects of mixing and remixing various modes of communication in contemporary society (Serafini, 2010). To do so, one must consider how visual images mediate experiences in a variety of social contexts and communicative events.

# Visual Literacy Defined

Early definitions of visual literacy outlined various cognitive strategies and skills one needs to make sense of visual images. These skills were conceptualized as individually developed cognitive abilities used for understanding visual images regardless of the contexts of production, reception, and dissemination. More contemporary definitions

date: 12 March 2017

suggest visual literacy be reconceptualized as a contextualized, embedded social practice as much as an individual, cognitively based ability or set of visual competencies. Visual literacy is complex, multidimensional, and embedded within a range of visual, cognitive, aesthetic, and affective dimensions (Callow, 2003).

Although the inclusion of the word "literacy" in the term "visual literacy" may imply a verbocentric or logocentric focus—which many consider problematic—the term "visual literacy" is often considered most appropriate when identifying this field of inquiry or set of practices and competencies. Messaris (1994) asserted the linguistic analogy implied by the word "literacy" is potentially misleading due to its association with reading and writing and the suggestion that visual images work in similar fashion to language is problematic. However, Messaris also asserted there are few if any commonly employed alternative terms used in place of "visual literacy."

Debes (1968) is often credited with coining the term "visual literacy" in a publication for Eastman Kodak. In a later publication, Fransecky and Debes (1972) further delineated their definition of visual literacy, asserting, "Visual literacy refers to a group of vision-competencies a human being can develop by seeing and at the same time having and integrating other sensory experiences." In addition, Fransecky and Debes (1972) stated, "Visual literacy skills enable a person to discriminate and interpret the visible actions, objects, symbols, natural or man-made, that he encounters in his environment" (p. 7).

Prior to the contemporary definitions outlined in subsequent sections, Bishop Berkeley and other philosophers, including Aristotle, wrote about visual language and contrasted this concept or process with spoken and written languages (Mitchell, 1986). Unlike written language, which was considered a cultural construction based in arbitrary and symbolic conventions, visual language was deemed more universal in nature. Gombrich (1961) pointed out that although there may be some normal processes associated with "seeing," there is no pure or innocent visuality. Gombrich (1972) asserted that "the innocent eye is blind," while Goodman (1976) stated that "the eye always comes ancient to its work." These assertions set the foundation for the inclusion of cultural contexts and visual conventions along with the cognitive and perceptual dimensions of visual literacy.

Berger (1972) suggested that looking was first and foremost an act of choice. To look was to select specific images and visual phenomenon from the available visual environment to look at: "We only see what we look at. To look is an act of choice" (Berger, 1972, p. 8). The concept of *looking*, rather than the more basic process of *seeing*, provides the foundation for contemporary definitions of visual literacy. Contemporary definitions of visual literacy go beyond the basic processes of perception to suggest visual literacy is also about selection and attention and that the interpretation of visual images is based on both what we know and what we see.

date: 12 March 2017

The concept of visual literacy was also a foundational concept in the study of art history, iconology, and visual culture (Mitchell, 1986, 2005). In this field of inquiry, the term is often contrasted with the more basic, perceptual process of "visual competence," which is considered a "baseline skill" and is a necessary foundation or prerequisite for the more complex skills associated with visual literacy (Stafford, 2008). The difference between these two terms is also related to the distinctions made by perceptual psychologists and neuroscientists that images are not passively impressed on the retina and transferred to the brain to be simply decoded and analyzed (Zeki, 1999). The concept of *looking* suggests the brain is actively involved in filtering, selecting, and organizing incoming information from the senses and is far more dynamic than passive in the interpretation of sensory information (Stafford, 2008).

In similar fashion, Rose (2001) distinguishes between *vision*, what the human eye is physiologically capable of seeing, and *visuality*, how vision is constructed in various ways. Visuality, unlike the registering of light on the retina or the physiological apprehension of sense data, is not unidirectional, innocent or naïve; it is guided by the experiences and knowledge of an individual transacting with a visual image in one's environment (Serafini, 2014).

Like the concept of *literacy* in general, there is little consensus concerning a single definition of *visual literacy*. Notions of literacy, in particular visual literacy, are socially constructed and therefore contextually embedded, situational in nature, and produced by cultural forces and practices (Elkins, 2008). Different theoretical perspectives define visual literacy in different ways, each bringing their own perspectives from their fields of inquiry or academic disciplines. Scholarship in the 1970s and 1980s focused the definition of visual literacy on the cognitive skills necessary to successfully represent and communicate ideas. For example, Ausburn and Ausburn (1978) asserted that visual literacy includes the group of skills that enable an individual to understand and use visuals for intentionally communicating with others. Hortin (1980) suggested visual literacy is the ability to understand (read) and use (write) images and to think and learn in terms images—or in other words, to think visually.

Visual literacy was further defined as a set of acquired competencies for producing, designing, and interpreting visual images and messages, suggesting visual literacy is any sustained activity that treats visual material and its uses as worthy of intelligent consideration (Avgerinou, 2009). Visual literacy involves the ability to interpret, design, produce, and use culturally based images, objects, and visual resources (Felten, 2008). Dondis (1973) described visual literacy as a set of elements and strategies of communication, while Seels (1994) described it as an aptitude for visual communication, visual thinking, and visual learning. Additionally, Messaris (1994) defined visual literacy as

date: 12 March 2017

the gaining of knowledge and experience about the workings of the visual media coupled with a heightened conscious awareness of those workings. Most contemporary definitions include both a comprehension or interpretation component with a design or creation component, suggesting that visual literacy entails both the process of making sense of visual images as well as the design, creation, and distribution of visual images. In summary, these early definitions focused on the ability to access, analyze, evaluate, and communicate information in a variety of forms as the most important aspects of visual literacy.

The International Visual Literacy Association was challenged to construct and adopt an operational definition of visual literacy (Brill, Kim, & Branch, 2007). However, the authors of the Delphi Study to construct such a definition reported that a consensus among visual literacy scholars did not exist. Stated assumptions of the report included: (1) images communicate meaning, (2) literacy means being able to read and compose, and (3) visual literacy is a "language of imagery bound by the explicit juxtaposition of symbols in time and space" (Brill, Kim, & Branch, 2007, p. 49).

In addition to a lack of consensus among theorists as to a single definition of visual literacy, there is an array of terms often associated with many of the central tenets of visual literacy. Visual intelligence (Seward Barry, 1997), visual arts (Alperson, 1992), visual perception (Arnheim, 1986), visual lexicon (Cohn, 2007), visual rhetoric (Handa, 2004), visual thinking strategies (Yenawine, 2013), visual culture (Barnard, 2001; Mirzeoff, 1998), and visual persuasion (Messaris, 1997) are all related in some degree to the central concepts addressed by visual literacy theorists and educators. In addition, the concepts of visual research (Margolis & Pauwels, 2011), visual methodologies (Rose, 2001) and visual analysis (van Leeuwen & Jewitt, 2001) propose research designs and analytical frameworks for making sense of visual images and contexts.

Although a single agreed-upon definition is not forthcoming, there is consensus that the need for investigating the theories, analytical frameworks, and pedagogical approaches associated with visual literacy exists, parallels the processes associated with verbal language, involves the interpretation and creation of visual resources, is related to communicational skills, and worthy of curricular considerations (Avgerinou, 2009). Adobe Systems Inc. offered a "Visual Literacy White Paper" (Bamford, 2003) that detailed the history of the term "visual literacy" and offered a revised and more comprehensive definition. This definition outlined the requisite skills students would need to be successful working with visual images and designs. The paper asserted visual literacy involves developing a set of skills to be able to interpret the content of visual images, examine the social impact of those images and to discuss purpose, audience and ownership. It includes the ability to visualize internally, communicate visually, and read

date: 12 March 2017

and interpret visual images. In addition, people need to be aware of the manipulative uses and ideological implications of images.

The Adobe Visual Literacy White Paper delineated the following set of competencies a person would need to develop to be visually literate. A person should be able to:

- understand the subject matter of images
- analyze and interpret images to gain meaning within the cultural context the image was created and exists
- analyze the syntax of images including style and composition
- analyze the techniques used to produce the image
- evaluate the aesthetic merits of the work
- evaluate the merits of the work in terms of purpose and audience
- grasp the synergy, interaction, innovation, and affective impact of an image

Visual literacy also involves making judgments of the accuracy, validity, and trustworthiness of visual images. A visually literate person can discriminate and make sense of visual objects and images; create visuals; comprehend and appreciate the visuals created by others; and visualize objects in their mind's eye.

Visual literacy is concerned with understanding the role of visual images as a means of communication. Messaris (1994) examined four specific aspects of visual literacy in his groundbreaking work, including: (1) visual literacy as a prerequisite for the comprehension of visual media, (2) general cognitive consequences of visual literacy, (3) awareness of visual manipulation, and (4) aesthetic appreciation. Connecting visual literacy with information-processing skills, Messaris (1994) advocated for the development of visual literacy skills as a derivative of a person's general cognitive skills. Although he recognized a viewer's experience with images as an important part of the development of visual literacy skills, he also asserted that a viewer possesses visual information-processing skills in the absence of any previous experience with images. By doing so, Messaris (1994) asserted that socially constructed knowledge of the conventions associated with visual images is only one of the skills necessary for comprehending visual images. He was not as concerned with training students to read images and connected the perceptual process of images with the ways people perceive everyday reality. While Gombrich (1972) and Goodman (1976) were writing about the arbitrariness of images (the concept suggesting visual images resemblance to reality is a matter of cultural convention) Messaris was balancing viewers experience with reality and their experience with the cultural conventions associated with visual images in his definition for a visual literacy.

date: 12 March 2017

Dondis (1973) stated that one of the primary challenges of developing an approach to visual literacy was over-defining the concept. He further asserted that trying to make the study of visual images analogous to the study of language was futile. He suggested pictorial images do have a visual *syntax* and that there are guidelines that should be adhered to when constructing visual compositions. Dondis (1973) was concerned with the power and importance of the role visual images play in everyday lives.

In addition to the definitions associated with visual literacy itself, a wide array of *visual methodologie*s (Rose, 2001) have emerged and have been incorporated into several handbooks and other anthologies (Jewitt, 2009; Machin, 2007; Smith, Moriarty, Barbatis, & Kenney, 2005; van Leeuwen & Jewitt, 2001). These publications serve as a map of the terrain of the research designs and theoretical frameworks available for analyzing visual images. Throughout these publications, the analytical perspectives ranges across content analyses, perceptual studies, art criticism, cultural studies, semiotics, and discourse analyses. Various methodologies are borrowed from a wide range of fields of inquiry and are used to inform the analyses of visual images, visual culture, and its associated social practices. Lister and Wells (2001) assert that the methodological rigor of visual studies may be judged in terms of coherence and the responsible ways researchers use the various intellectual and methodological resources available to them. These various methodologies draw from art criticism, cultural studies, semiotics, and visual and multimodal literacies to offer researchers and theorists a foundation for the empirical investigation of the vast array of visual phenomenon available in contemporary society.

Concerned with more than the image itself, contemporary definitions of visual literacy address the various contexts in which images are viewed, as well as the reception, production, and distribution of visual and multimodal texts. Visual literacy is a process of generating meanings in transaction with multimodal ensembles, including written text, visual images, and design elements, from a variety of perspectives to meet the requirements of particular social contexts (Serafini, 2010).

# Sociocultural and Critical Perspectives on Visual Literacy

The shift from studying visual images in isolation to a broader conceptual framework referred to as *visual culture* is associated with a similar shift in art education, in particular, to move beyond the study of fine art to including other visual and cultural artifacts (Duncum, 2004). This shift is part of a larger movement within the social sciences and humanities to conceptualize visual images as part of a general theory of

date: 12 March 2017

communication. Barnard (2001) divided research and theoretical work in visual culture into a *strong sense,* which focuses on the cultural production of values and identities, and a *weak sense,* which focuses on the visual aspects of contemporary culture and the plethora of visual images and media available in society.

The basic premise of a sociocultural perspective on visual literacy is that developing a framework for studying visual images requires considering not only the visual image itself but the various contexts associated with visual images: for example their production, dissemination, and reception (Rose, 2001). Visual images, language, and other systems of representation do not reflect existing realities, rather these systems organize, construct, and mediate our understandings of reality through various modalities and social practices (Sturken & Cartwright, 2001). Political, historical, sociocultural, economic, and cultural contexts must be considered as part of an expanded definition of visual literacy and one's ability to make sense of the visual images presented in today's world.

In essence, *visual communication studies* are a collective term for the investigation and analysis of visual culture (Mitchell, 2002). Visual and cultural studies are a transdisciplinary field of inquiry often associated with art history, aesthetics, and cultural studies, whereas visual culture is considered the object under investigation. The study of visual culture generally asserts that artifacts and their perception are socioculturally and contextually grounded, in that these artifacts are historically, socially, and politically determined and cannot be studied in isolation from these factors and contexts (Barnard, 2001).

Representations of various aspects of social life utilizing multimodal ensembles that include visual images and written language are ubiquitous in modern society (Mirzeoff, 1998). Every instantiation of communication and representation implies a reduction and transformation of a considerable number of characteristics of represented reality (Kenney, 2005). Consequently, recognition of the represented elements of a visual image by no means implies that one understands the meaning potentials and underlying ideologies of what is experienced (Pauwels, 2008). Kress and van Leeuwen (1996) assert that visual images or *pictorial structures* do not simply reproduce reality, rather they suggest visual representations "*produce* [italics in original] images of reality that are bound up with the interests of the social institutions within which the pictures are produced, circulated, and read" (p.45).

Conceptualizing the interpretation and creation of visual images within a sociocultural framework requires problematizing earlier definitions of visual literacy that focused on identifying universal sets of cognitive skills to be acquired. From a sociocultural and critical theories perspective, visual literacy skills can be reenvisioned as social-embedded

date: 12 March 2017

literate practices that are used in specific contexts and settings. This reconceptualization of visual literacy as a form social practice embedded in particular sociocultural, historical, and political contexts suggests that visual literacy is not a stable, universal set of cognitive skills but a range of social practices that vary with the contexts of the production, distribution, and reception of visual images (Kress, 2010).

Studies in visual culture often focus on revealing how dominant cultural norms become embedded in media messages in ways that allow them to be reinforced, internalized, and ultimately become hegemonic (Mirzeoff, 1998). Hall (1997) defines ideological power as the power to signify events in a particular way and ideology as a site of negotiation and even struggle over competing meanings. Studies in visual culture conceptualize visual images as part of a broader circuit of culture placing a greater emphasis on the cultural embeddedness of visual images (Lister & Wells, 2001). Mitchell (2005) asserted the primary goal of studies in visual culture is to understand the "visual construction of the social field" (p.345). These assertions provide the foundation for particular aspects of media literacy, as well as a framework for a critical visual literacy (Aiello, 2006).

In addition to the foundations of critical visual literacy set forth by Hall (1997), Barthes (1977), and others, critical race and feminist theories have been used to interrogate patriarchal and racial influences on viewers' gaze, interpretations, and visual pleasure. Mulvey (1989) analyzed the visual images associated with cinema from a psychoanalytical framework questioning the ways in which the subject is constituted through sexual differences and how cinematic modes of representation structured ways of seeing and visual pleasure. She asserted that the cinema reproduces gendered subjects and that viewers' visual processes are subjugated by preexisting social patterns based on patriarchal systems of domination. Like Berger (1972), Mulvey (1989) focused on the ways that gaze was constructed as a viewing relationship based on a set of social contexts and circumstances. Visual pleasure functions through scopophilia, deriving pleasure in looking at subjects or adopting a voyeuristic gaze, and through narcissistic identification of males as a controlling figure.

In similar fashion to Mulvey, hooks (1992) asserted the concept of an *oppositional gaze* that was to call attention to the various representations of race and advocating a sense of visual agency or *looking to resist*. hooks (1992) asserted, "The ability to manipulate one's gaze in the face of structures of domination that would contain it, opens up the possibility of agency (p.116). There are multiple, often conflicting, historical and sociocultural viewing positions from which to interpret and analyze visual images. The conceptions of visual literacy and analysis offered here take umbrage with the male-dominated, white-privileged ways of seeing that have become the foundation of critical visual analytical frameworks.

date: 12 March 2017

In addition, studies in visual culture tend to focus on the institutional contexts of production, distribution, and reception of visual images. Whereas, visual literacy studies that align more with a social semiotics perspective tend to focus on textual structures and visual grammar (Iedema, 2003; Kress & van Leeuwen, 1996). The expansion of imaging and visualizing technologies has provided the foundation for visual cultural studies to become an interdisciplinary field of inquiry in and of itself, while still being connected to the broader field of cultural studies.

# Semiotics, Social Semiotics, and Visual Literacy

Semiotic approaches to visual images were initially based on the structures and foundations set forth for oral and written languages. Although the work of Saussure (1910) and Pierce (1960) never focused exclusively on visual images, Saussure asserted his framework for semiotic analysis, referred to as *semiology*, was originally designed to provide a foundation for all modes of communication in general. His work on the process of signification provided a foundation for the structuralist movement in linguistics and other disciplines. Additionally, Goodman's (1976) *Language of Art* suggested that language provided the model for all symbolic systems, including the pictorial. These language-based semiotic theories were used to provide the foundation for the study of visual phenomena. Utilizing the framework of semiology offered by Saussure, Levi-Strauss (1972), Barthes (1967), and Hjelmslev (1961) incorporated various fields of inquiry into the movement known as *structuralism* (Cobley & Jansz, 1997).

Early proponents of semiology conceptualized semiotics as an all-encompassing theory that could be used to interpret a wide range of social and cultural phenomena in terms of language. Barthes (1977) was one of the first theoreticians to bring the linguistic analytical frameworks of Saussure to bear on visual images, in particular, advertising and photography. Like Gombrich and others before him, Barthes (1977) suggested images are never innocent and that the meanings constructed by individuals are often naturalized by being associated with a given visual object.

In *Rhetoric of the Image*, Barthes (1977) outlined his theory of visual literacy using a linguistically based theory of semiotics to address three levels of meaning in visual images, in this instance an advertisement for Panzani pasta. This tripartite framework was used to analyze the various *mythologies* associated with advertisements and photography. Barthes (1977) analyzed the Panzani advertisement into three messages: (1) the linguistic message, (2) the non-coded iconic message, and (3) the coded iconic

date: 12 March 2017

message. The linguistic message referred to the written language included in the ad, whereas the non-coded iconic message referred to the denotative level of meaning and the coded iconic message referred to the connotative level. Denotation is conceptualized as the literal meaning, whereas connotation is a second-order meaning layered onto the denotative level. Connotation is described as a *parasitical sign* attaching itself to the denotative level in a second order of signification and as a way of offering a distinction between the perceptual message and the cultural message. Barthes used the term *myth* to refer to the cultural values and beliefs that are expressed at the level of connotation. Although the distinction between denotation and connotation is problematic, these terms were used as the primary foundation for rhetorical visual analysis (Aiello, 2006). In addition to Barthes (1974) and its semiological focus on advertising and photography, Metz (1974) extended linguistic concepts and methods of analysis to film.

The move from a structuralist account of semiotics to a social semiotics account hinges on the role that sociocultural contexts and practices pay in the production, dissemination, and reception of visual phenomena. Goodwin (2001) stated, "Visual phenomena can only be investigated by taking into account a diverse set of semiotic resources and meaning-making practices that participants deploy to build the social worlds that they inhabit and constitute through ongoing processes of action" (p. 157). By investigating the codes through which visual images construct meaning potentials, and the social practices and contexts through which these codes are embedded with meanings, is a foundational aspect of social semiotic theories of visual literacy.

Social semiotics is a transdisciplinary field of inquiry, synthesizing principles and methodologies from linguistics, semiotics, anthropology, sociology, visual culture, and sociocultural perspectives on literacy (Lemke, 1989). Social semiotics views the processes of meaning making across a diverse range of modalities as a social practice embedded in and affected by existing cultural norms and power structures. Buckingham (2003) asserted that a semiotic approach that focuses on texts alone has been replaced by an expanded social semiotic literacy that is grounded in social, historical, and political contexts. Social semiotics emphasizes the semiotic resources that are mobilized in a given text and focuses on the ways in which given visual strategies can be deployed within and across texts to achieve ideological ends.

A structuralist semiotic approach to representation has been typically interested in deconstructing texts in order to identify codes, or sets of rules that are agreed upon within a given cultural system, and allow the members of a particular culture to understand each other by attaching the same meanings to the same signs (Aiello, 2006). From this perspective, meanings are not permanently fixed or certain; however, the field of possible meanings that can be attributed to given semiotic resources is limited. This is

date: 12 March 2017

because those who make and benefit from the rules of visual representation also constrain meaning potentials by favoring certain interpretations, codes, and conventions over others (Aiello, 2006). Social semiotics is functionalist in the sense that it considers all visual texts as having been developed to perform specific actions, or semiotic work (Jewitt & Oyama, 2001).

Studies utilizing the foundations of critical visual analysis (Aiello, 2006) and visual discourse analysis (Albers, 2007) are also concerned with deconstructing visual texts to subject their messages and content to critical analysis. Reconceptualizing the structuralist concept of *code* as that of *semiotic resource* allowed social semiotic theorists and researchers to consider the historical and sociocultural aspects of these resources and how they were used in particular social practices for interpreting and producing visual messages.

In their seminal publication *Reading Images: The Grammar of Visual Design*, Kress and van Leeuwen (1996) adapted systemic functional linguistics to address the structural aspects of visual images. They created a typology for analyzing visual images that paralleled the categories first proposed by Halliday (1975). Drawing on the three metafunctions outlined by Halliday (1978), namely: (1) ideational, (2) interpersonal, and (3) textual, social semiotics provides a theoretical foundation for the deconstruction and analysis of visual images using a typology of visual grammar to understand how visual images work, and how the social practices associated with these visual and multimodal texts represent and communicate particular meaning potentials.

The typology offered by Kress and van Leeuwen (1996) divided visual images into *narrative* and *conceptual* representational structures. Using Halliday's (1978) metafunctions as the organizing framework, they creating an extensive hierarchy for the analysis of various elements of visual grammar. Concepts such as salience, framing, and modality were drawn from Halliday's work in systemic functional linguistics and applied to the analysis of visual phenomena. Their focus on a multimodal framework for addressing ways of communicating has pushed the boundaries of visual literacy to include other modalities in addition to visual images. As the work of Kress and van Leeuwen has evolved, they have incorporated ethnography and a socially based theory of semiotics and multimodality in their research and theoretical analyses.

date: 12 March 2017

# The Multimodal Turn in Visual Literacy

In addition to sociocultural considerations, the emerging digital and multimodal landscape has had a profound effect on the concept of visual literacy. Visual images and multimodal ensembles are more readily available and manipulated in digital and online environments affecting one's visual capacities. Emerging digital and web-based technologies have forever changed the concept of visual literacy and what constitutes a visual image and its production, distribution, and reception.

Rejecting the notion that purely monomodal communicative systems exist, theorists working in multimodality have recognized the thoroughly multimodal nature of texts and communicative phenomena (Mitchell, 2005). The aim of multimodal analysis is to account for the ways various modes (i.e. music, photography, written language, sound effects, and gestures) add to or expand the meaning potential of texts beyond the meanings of individual modalities.

In addition to the social turn affecting the definitions and field of inquiry associated with visual literacy, the multimodal turn (Duncum, 2004) has also expanded the field and has affected the analytical frameworks for understanding visual images and multimodal artifacts. In order to address the multimodal nature of visual studies, Duncum (2004) suggests we reconceptualize art education as visual culture. Art, in this instance fine art or visual art, is only one semiotic resource used in social contexts. And because of the multimodal nature of all cultural sites, our literacies must be multiple and consider meaning across modalities not to mention how cultural forms are integrated into life.

Visual culture was never exclusively visual; all sites that involve images also involve other communicative (semiotic) modes. Lemke (1989) asserted that all literacy was multimedia literacy and that all semiotics were multimedia semiotics (p.283). Rejecting a logocentric position, Lemke (1989) acknowledged, like many others, that language alone was not the only carrier of meanings in modern communicative instantiations and that other modalities need to be considered in a semiotic multimedia literacy framework. Acknowledging the theoretical underpinnings of multimodality—that acts of communication and representation are accomplished by modalities other than language alone—educators and researchers asserted that visual literacy is closely associated with multimodal literacy and should be a vital part of an expanding literacy curriculum (Callow, 2013).

An interesting field of inquiry that bridges visual and verbal literacies is that of typography. The typography of written language not only serves as a conduit of verbal narrative, rather how it serves as a visual element and semiotic resource with its own

date: 12 March 2017

meaning potentials (Serafini & Clausen, 2012). Typography is the art and technique of arranging type to make language visible. Typographical elements need to be conceptualized as semiotic resources for authors, illustrators, publishers, book designers, and readers to draw upon to realize textual or expressive meanings in addition to interpersonal and ideational meanings (van Leeuwen, 2006).

Bazalgette and Buckingham (2013) have asserted that the shift toward multimodal theories have focused primarily on print-based texts and have neglected moving images as an important modality. They contend that much of the work in multimodality has ignored film and cinema studies in favor of the analysis of static images. They critiqued the current focus on multimodality from a cultural studies framework and asserted that analytical approaches must go beyond the text itself to consider how texts are produced, disseminated, and received in specific social and cultural contexts (Bazalgette & Buckingham, 2013).

# Media and Visual Literacy

Educators whose primary interest and area of study has been language and literature have come to recognize the importance of dealing with a wider range of media. The term *media literacy* refers to the knowledge, skills, and competencies required to use and analyze various media. Proponents of media literacy have long recognized the importance of including various modes—for example, sound effects, music, movement, gesture, and language—in addition to visual images in their analytical frameworks (Baker, 2012; Hobbs, 2011). Media theorists have long contended that the skills necessary for representing and communicating visual meanings go beyond the conventions that apply to language alone. Messaris (1997) asserted a central focus of media literacy frameworks should be an understanding of the representational and visual conventions used in various media messages and advertisements. He suggested that visual literacy skills are an important part of media literacy and must go beyond acting simply as a self-defense mechanism through which viewers learn to counteract the ideological forces of advertisements, and should help, "people enrich their repertoire of cognitive skills and gain access to powerful new tools of creative thought" (Messaris, 1997, p. 70).

Much of the original emphasis for media literacy frameworks was to provide children with the skills and competencies to avoid being duped by television and other forms of multimedia advertising. Blending media studies, rhetorical analysis, and visual literacy, studies in visual rhetoric focus on understanding an advertisements' influence on a particular audience through visual images (Morgan, 2005; Scott, 1994). Media literacy and

date: 12 March 2017

visual literacy intersect in other ways as well. Since most media messages are primarily visual in presentation, with the possible exception of radio and audio recordings, one's ability to understand the representational aspects of media messages dovetails with the communication theories of visual literacy advocates. In addition, since most visual literacy frameworks entail both interpretation and production of visual and media messages, and technological advances allow personal computers to blend visual images, design features, sound effects, music, video clips and other modalities with relative ease, visual and media literacy can connect on an aesthetic level as well (Chauvin, 2003). Whether visual literacy is a part of media literacy, or if media literacy is under the umbrella of visual literacy, their histories and trajectories seem to follow similar paths.

Critical media literacy embeds visual and media literacy in critical theory and pedagogy and focuses on how power and influence are naturalized, socially and historically constituted, mediate human thought and actions, and are hidden behind particular grand narratives (Semali, 2003). Kellner and Share (2005) suggested critical media literacy, "expands the notion of literacy to include different forms of mass communication, popular culture, and new technologies" (p. 60). Since visual images represent a dominant modality in media messages, visual and media literacy studies tend to work towards similar goals.

# Developing a Visual Literacy Curriculum

Helping students acquire and develop their abilities in visual literacy has been postulated as an important component of 21st-century skills, and advocates have been trying to embed these literacies in curriculum documents across Western societies. Merging research in the fine arts, literacy education, multimodality, and new literacies, various educators have begun to find common ground across these diverse fields of inquiry to develop and support visual literacy practices and skills (Albers & Sanders, 2010). Educators have suggested the world is on the threshold of the "hegemony of the image" (Avgerinou, 2009, p. 32) and that the only possible weapon for addressing this evolution is through better education in visual literacy. Because communication no longer focuses solely on written language and includes visual images and other modalities, the need for including visual literacy in traditional literacy curricula is essential.

Pauwels (2008) suggested that despite the importance of developing visual competencies of literacies, visual literacy is still not regarded as a societal priority, and visual literacy education is more than an educational endeavor: rather, he suggested it be conceptualized as a *societal project* (Pauwels, 2008). In the *bain d'images* (or image bath)

date: 12 March 2017

we currently find ourselves in, there are more and more images available, and they play a larger role in contemporary society; however, the skills or literacies required to navigate, analyze, and critique these images is deemed lacking (Avgerinou, 2009).

Although calls for a more robust focus on visual literacy in elementary, middle, and high school classrooms have been widespread, visual literacy curricular frameworks may not be endorsed by particular curricular standards or local mandates (Serafini, 2012B). Traditional literacy pedagogy has been grounded in a linguistic model of communication and meaning construction and has focused primarily on reading and writing printed texts in elementary and secondary classrooms. Because visual images and representations play a crucial role in many facets of contemporary society—including documenting human existence and culture— developing one's identities, shaping worldviews, and the storage and communication of information, developing a comprehensive framework for developing the capacities for visual literacy in young children seems essential. The shift from a traditional literacy educational framework to a visual and multimodal curriculum frame will need to be accompanied by a shift from a transmission-based curriculum to a more inquiry-based, multimodal, progressive instructional approaches.

Metros (2008) has asserted that although students are bombarded with visual images many of them are essentially *visually illiterate*. She has suggested that students in schools today lack the vocabulary or metalanguage to analyze and discuss visual images, which in turn prevents them from being able to express their ideas visually. In addition, she asserted that students do not have the skills to decipher images and make ethical decisions based on their validity and worth. In addition, the noise and confusion of this visual overload can prevent students from developing relationships and their personal identities (Metros, 2008). To function effectively in the new millennium, teachers will need to develop learning objectives and assignments that incorporate visual media in meaningful ways, develop new assessments for evaluating students' multimodal abilities, and find ways to make visual and multimodal literacies available to all learners.

Calls for an expanded literacy curriculum to encompass the skills and practices necessary for interpreting and analyzing visual and multimodal texts have come from an array of fields of inquiry, including children's literature (Arizpe & Styles, 2003; Dresang, 1999; Nikolajeva & Scott, 2000; Sipe, 1998) literacy education (Hassett & Schieble, 2007; Serafini, 2011), art education (Duncum, 2004; Yenawine, 2013), sociology (Werner, 2002), and teacher education (McVee, Bailey, & Shanahan, 2008). A comprehensive visual literacy curriculum should be grounded in an interdisciplinary approach, addressing visual images and visual culture as a medium for cultural products, as the dominant visual cultural product itself, and as an educational means of communication and research (Pauwels, 2008). It should focus on developing students' abilities to understand various types of visual images and

date: 12 March 2017

representations, their ability to place images and visual representations in political, historical, and cultural contexts, and understand the processes of production and distribution of images.

As an early proponent of incorporating other modalities beyond language in the language arts curriculum, Suhor (1984) offered a framework for what he called a *semiotics-based curriculum*, integrating the foundations of semiotics with approaches to media, visual, and language-based literacy education. The framework focuses on language as the primary organizer of human experience but allowed room for visual representation and other modalities (e.g. pictorial and gestural) in its design. He proposed that bringing semiotics into the traditional language and literacy curricula frameworks available at the time would expand the focus of literacy education.

Based on the literacy model proposed by Green (2002), Callow (2005) suggested a tripartite model that included affective, compositional, and critical dimensions. The affective dimension focused on an individual's sensual and immediate response to visual images, the compositional dimension focused on the semiotic, structural, and contextual elements of composition, whereas the critical dimension acknowledged the importance of bringing sociocultural critique to the investigation of visual images. One of Callow's (2005) purported goals was to legitimize visual literacy as an important component in the broader scope of literacy education.

Other literacy educators focused more on the creative and compositional aspects of visual and multimodal literacy rather than the interpretive aspects. McVee, Bailey, and Shanahan (2008) investigated the challenges teachers face concerning integrating visual literacy into the elementary and secondary curriculum. They suggested teachers used digital and visual technologies in their personal lives with more frequency than they integrate it into their curricular frameworks. To address this challenge, their research asserted that teachers must foster an environment to share problem-solving strategies that will incorporate new technologies and aspects of visual thinking in their classes.

Educators in the content areas, particularly science education, have asserted the importance of teaching students the skills and strategies necessary for interpreting visual images. Watkins, Miller, and Brubaker (2004) and Pappas and Varelas (2009) have suggested that science education must address the ways students understand scientific concepts and evidence. Students need to be able to depict and interpret data across a variety of visual representations, including charts, graphs, storyboards, maps, and presentational software, to be successful in the content areas.

Reading educators have acknowledged that reading comprehension entails the integration of visual images and written language of contemporary texts (Daly &

date: 12 March 2017

Unsworth, 2011). Hassett and Schieble (2007) contend that reading education must include the various ways print and visual images work in concert in the process of representation and communication. Hassett and Curwood (2009) suggest the need to take advantage of the instructional dynamics of picture books and other visual texts to create space for the visual in reading strategies instruction. Organizing a visual literacy curriculum in parallel with reading instruction focusing on graphophonic, semantic, and syntactic cues, Hassett and Schieble (2007) has pointed out the perceived commonalities among visual and print-based literacy skills. Additionally, Piro (2002) has aligned reader-response theories with visual literacy skills. Drawing upon the work of Kiefer (1995), he suggested that print-based language arts and the visual arts share numerous commonalities in their semantic and syntactic properties. In these examples, various literacy and teacher educators have suggested different pathways for aligning visual literacy with traditional reading instruction and incorporated various visual literacy skills into a print- and language-based curriculum.

Advocates of Halliday's (1978) systemic functional linguistics and Kress and van Leeuwen's (1996) typology of visual grammars have used these frameworks and associated metafunctions to outline a structure for teaching visual literacy (Anstey & Bull, 2006; de Silva Joyce & Gaudin, 2007; Painter, Martin, & Unsworth, 2013). Drawing upon the ideational, interpersonal, and textual metafunctions, these researchers and educators have aligned the analysis and production of visual images and multimodal ensembles with the structures used to understand language from a social semiotic perspective. These curricular frameworks draw upon linguistic structures to analyze and teach visual structures.

In addition, literacy educators have extended the *four resources model* first proposed by Luke and Freebody (1999) to include visual and multimodal texts and the resources and literate practices necessary to be successfully literate in the new millennium (Ryan & Anstey, 2003; Serafini, 2012A). This work has asserted that students in the 21st century need a repertoire of practices that can support making meaning and communicating across a variety of modes and media, critical analysis of written texts and visual images, and engaging in the sociocultural practices surrounding these visually dominant texts (Ryan & Anstey, 2003).

It has been asserted, not only do educators need to develop students' abilities to analyze visual images and multimodal artifacts, they need to develop a *metalanguage* for students to discuss the structures, features, and systems of meaning involved. Drawing upon the work of Kress and van Leeuwen (1996) and O'Toole (1994), literacy educators have used various typologies as a framework for developing the vocabulary students would need to

date: 12 March 2017

approach, analyze, and compose visual and multimodal ensembles (Bull & Anstey, 2005; Unsworth, 2002).

Some literacy educators have made the case for including visual images and multimodal texts in the language arts curriculum to serve populations not traditionally successful in print- and language-based activities, in particular boys and adolescents. "In composing visual texts, adolescents need to think both multimodally and semiotically—that is, they need to think about which media and modality best represent their ideas" (Doering, Beach, & O'Brien, 2007, p. 43).

Drawing on art education, various educators and researchers have used the theoretical foundations of art criticism as a framework for addressing visual images and multimodal texts. Yenawine (2013) has outlined a series of visual thinking strategies designed to use visual strategies to look at art, ask open-ended and developmentally appropriate questions, and engage in discussions to deepen learning across school-based disciplines. Duncum (2010) proposed seven principles for visual literacy education that included; power, ideology, representation, seduction, gaze, intertextuality, and multimodality. These principles align visual literacy with visual culture and "offer contemporary lenses to help understand a world in which imagery has come to characterize everyday life" (Duncum, 2010, p. 6).

Research studies and pedagogical approaches focusing on the visual and design aspects of graphica (Thompson, 2008)—namely comic books, manga, and graphic novels—have become widespread in the past few decades. McCloud (1994) and Eisner (2008) provide a theoretical foundation for understanding the mechanics of comics or sequential art, and provide a framework for how they can be analyzed. Although comics and graphic novels have been marginalized across various pedagogical frameworks, and positioned texts of lower quality that may interfere with effectively developing young readers literacy development, educationalists have written passionately about the need to include these multimodal texts in contemporary classrooms (Low, 2012; Yang, 2008). Drawing on the work of Kress and van Leeuwen (1996), literacy educators have advocated for graphic novels as complex, multimodal texts that are worthy of serious attention and investigation (Connors, 2012; Wolk, 2007)

In addition, literacy educators have looked to picture-book theories, research, and pedagogy where concepts of visual literacy have been taken up by children's literature advocates from a variety of theoretical positions. From the foundational work of Nodelman (1984), Kiefer (1995), Doonan (1993), and Moebius (1986) to the focus on contemporary and postmodern picture books (Lewis, 2001; Serafini, 2008; Sipe & Pantaleo, 2008), researchers and educators have drawn upon studies in visual literacy, multimodality, and semiotics to conceptualize the production, analysis, and interpretation

date: 12 March 2017

of picture books. These reading educators and researchers are as interested in frameworks for analyzing picture books themselves and the role these visual and multimodal texts play in the elementary and secondary curriculum.

Arizpe and Styles (2003) conducted extensive research on the meanings constructed and discussed during children's interactions with various contemporary picture books. Studies focusing on the ways in which young children responded to the visual and textual features of contemporary and classic picture books drew on semiotics, postmodernism, and visual culture to understand the role of picture books in the elementary classroom (Sipe, 2008). Based on work done at the Eric Carle Museum, the *Whole Book Approach* (Lambert, 2015) offered classroom teachers a structure for focusing on and discussing the visual and artistic aspects of contemporary picture books. Acknowledging picture books as a visual and artistic object, in addition to the language features of these texts, was of primary importance in these studies and pedagogical frameworks.

In addition, the evolution of digital technologies has played an important role in the emergence of visual literacy skills and in one's ability to communicate effectively in contemporary society. Digital and online technologies have leveled or democratized the playing field concerning who has access to visual images and the processes and technologies for creating and disseminating visual phenomenon. While many literacy educators and researchers have contended that the dominance of language- and print-based literacies has pushed visual literacy to the periphery of the elementary and secondary curriculum, literacy and art educators have been working to expand the literacy curriculum to include a focus on visual images and multimodal texts.

As the digital revolution plays a more prominent role in visual culture and literacy educational frameworks and curricula, investigations into ways of interpreting, analyzing, and navigating video games, social media platforms, film, websites, and other forms of digital visual imagery must expand as well. Gee (2007) has provided numerous principles of learning based upon his work with video games. As video games become a more prominent cultural force, scholars are attending to the ways this digital medium engages today's youth in various affinity spaces and offers ways these resources may influence learning, literacy, and social engagement (Hayes & Duncan, 2012). Investigating the intersections of digital and traditional printed texts in a participatory culture is an important field of research that is closely related to the theories and pedagogies of visual literacy (Jenkins, Ford, & Green, 2013). Ignoring the influences that digital texts and social media platforms have on members of today's society would be detrimental to understanding the roles that visual images play in the visual and literate landscape.

date: 12 March 2017

# Concluding Remarks

Making sense of the world is a basic human process. Humans perceive the world through various senses—the sense of sight in particular—and use this information to understand what is being experienced. The creation of visual images allows us to communicate our feelings and ideas across time and space, develop relationships with one another, and document our everyday experiences. The visual images encountered every day play an important role in how we make sense of the world and how we see ourselves (Serafini, 2014).

As theorists and educators work to better define the term *visual literacy* and expand its scope and range in contemporary educational settings, the work being done in various fields of inquiry should be used to shed light on how visual images operate in society to represent and communicate ideas. The world told has become the world shown (Kress, 2010), and it is important to understand how visual images work to show the world around us.

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date: 12 March 2017

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