

Cognitive Comics: A Constructivist Approach to Sequential Art

2nd Edition
by Donald Jackson © 2009

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For Thomas.

Table of Contents

Forward	4
Chapter 1: Pedogogical Foundations	5
How to Use this Book	5
Definitions	5
Perspectives on Arts-Based Research	7
A Constructivist Approach to Sequential Art	8
Why Sequential Art?	9
Sequential Art and the Brain	11
Cognitive Comics: Theory and Hypothesis	11
The Importance of Cognitive Dissonance	12
Is Sequential Art Really Art?	13
Chapter 2: Teaching Applications	
Teaching Tips	14
I-Can't-Draw Syndrome	14
Rubinstein's Holy Trinity	17
Don't Dumb it Down	18
Why Super Heroes?	19
The Japanese Invasion	20
Critique and Evaluation	22
Chapter 3: Metacognition Technician	23
Metacognitive Map	24
Diagram	25 - 26
A Whole New Mind	27
Cognitive Comics:	
Captain Gestalt	
Snap Dragon	
Ethereal – Dream Knight	
Nazzire's Wall	
Lesson Plans:	
Captain Gestalt	
Snap Dragon	
Ethereal – Dream Knight	
Nazzire's Wall	
References	

Foreward

This book is the culmination of my summer research fellowship awarded by the State University of New York College at Buffalo Office of Undergraduate Research. The book will have several short comics with lesson plans, the comics and lesson plans will be designed to facilitate cognitive, social and emotional development through a Constructivist approach to discipline based art education. The lesson plan structure and pedagogy are influenced by *Navigating the Teaching of Art* (Siskar & Parks, 2009) co-authored by my research mentor, Michael Parks, PhD. Other authors and researchers who influenced the formation of this method of cognitive development include Daniel Pink, author of *A Whole New Mind, How Right-Brainers Will Rule the Future*, neuroscientist Steven Lehar, PhD., former Professor of Cognitive Psychology at Salem State College, the writings of comics luminaries Scott McCloud and Neil Cohn.

Chapter 1 Pedagogical Foundations

How to Use this Book

Understanding through the experience of art is a path to higher order thinking skills. While the physical world is projected onto our mind through perception, art projects the mind's inner world out to the physical world via an art medium. When one enters the world of that art, this experience transfers knowledge and understanding through aesthetic inquiry. By exploring the layers and contexts of the art under study, we are able to make interdisciplinary connections to culture, history, sciences, linguistics and more. It is the objective of this book to provide enriched art experiences coupled with Constructivist lesson plans to facilitate higher order thinking skills. Each work of sequential art in Cognitive Comics is created for the purpose of cognitive development. They are accompanied by a corresponding discussion list and lesson plan in the back of the book. The lesson plans are designed for students in Elementary, Middle and High school. Each lesson complies with New York State Art Education Standards.

Sequential art is a particularly potent tool to develop higher order thinking skills due to the innate properties that make it unique among all mediums of art. Cognitive Comics presents sequential art as an art form deserving it's own classification for intensive study. Comics have been used for promoting literacy but Cognitive Comics takes an art education approach and shows how sequential art can do much more than develop reading skills.

Definitions

The following are essential definitions to guide you through this book:

Sequential Art refers to the sequence of words and images typically seen in graphic novels, comic books, web comics and comic strips. It is a sequence of images that create a visual narrative for the purpose of convey ideas and feelings. Sequential art is to graphic novels what music is to Opera. One might think of sequential art as paper films, however it has unique properties that distinguish it from moving pictures. For example, the reader provides the audio, the reader's assumptions about what happens off panel or between panels contribute to the experience. The passage of time is one of the distinguishing elements in sequential art. Whether it feels compressed or expanded, sequential art has a way of creating a different sense of time that overrides our sense of real time. While singular works of art can be said to have a narrative, sequential art is inseparable from the aspect of narrative because of it's cause and effect relation to time and space illustrated within the sequence of panels.

Sequential art is a prerequisite for film and animation production and requires many skills useful for both fine art and graphic design. Sequential art is not what we see in children's books if each image is only illustrating the text. Sequential art is not the sequencing of text and image strictly for instructional purposes, such as a safety manual. Sequential art does not always combine text with image to convey meaning. Text in sequential art has its own typographical elements such as the use of captions, word balloons, thought balloons and onomatopoeia. Text and text balloons/ captions in sequential art are also a graphic and structural element.

* **Graphic Novel.** A graphic novel is a work of visual literature usually combining sequential art with text. The term includes comic book anthologies, and bound collections of previously published comic book series (more commonly referred to as trade paperbacks). Unlike monthly comic book episodes, a graphic novel has a complete story arc from beginning to end. Graphic novels cover the entire spectrum of literary genres for all ages (not just super heroes). Graphic novels are found in most libraries and are generally sold in bookstores and specialty comic book shops rather than at newsstands.

* **Constructivism** is a psychological theory of knowledge which argues that one generates knowledge and meaning from one's own experiences. Constructivism is concerned with how personal understanding and knowledge is constructed. As a pedagogy, it is interdisciplinary.

* **Cognitive Development** is the growth of essential thought processes. This process of growth is hardwired into the brain's neural systems between infancy to roughly age twenty-five. Once the brain is hardwired, it is more difficult to gain cognitive development skills hence it is important to maximize cognitive development throughout ones early development. Who we for the rest of our adult lives is a structure of neural systems forged in the first part of life, therefore it is of the utmost important that educators make brain development a part of their curriculum.

* **Higher Order Thinking Skills (HOTS)** are the aims of cognitive development. Some of these cognitive skills include problem finding / solving, critical / analytical thinking, forward planning, creativity, resource / output management, and evaluation / decision making to name a few. Social and emotional intelligence also fall under the HOTS category and can include self-discipline, accountability, verbal / non-verbal communication, co-operation / co-ordination, stress management, and persistence to name a few.

Visual language, a term coined and supported by Neil Cohn, is a helpful definition for educators investigating the relationship of sequential art to cognitive development.

«The human has only three ways of expressing the concepts in our minds. We can...1. Create sounds 2. Move our bodies 3. Draw images. It's my theory that when any of these conceptual channels takes on a structured sequence governed by an underlying rule system (a grammar), it becomes a language. So...Structured sequential sounds become spoken languages. Structured sequential gestures that take on a grammar become sign languages. And structured sequential images can literally become a visual language.» (Cohn, 2007)

The question then arises, does Art, as a form of expression, have a grammar of it's own? Art that is made of sequencing images and text normally follows a kind of cause and effect, time-space grammar. The potential problem with the concept of visual

language comes when we look at Kerry Freedman's view of visual literacy in the context of art education,

«... the concept of visual literacy is an attempt to force images to fit illegitimately into a structuralist analysis of literary texts that tends to narrow visual meaning. Rather a broad view of creative production and interpretation in relation to multiple meanings and visual qualities is called for if we are to understand and teach about the use of images in contemporary life.» (Freedman, 1999)

This leads to the question of form. If sequential art is language than it's form is fixed. If sequential art is art, then it's form is not fixed and each artist can create their own grammar. Art, by nature, is not limited to the structure of it's form. To view sequential art through a linguistic or scientific perspective can give great insights, however this book approaches sequential art is an artform. It might be argued that all artforms are grammatical constructs forming dialectical languages per their expression but that view may be mistaking the parts for the whole.

When teaching sequential art, however, Cohn's insights are very valuable. Just as a music teacher would have you learn the scales and teach you the structural elements of music, looking at sequential art from a linguistic point of view gives a strong scaffold on which students can understand how to create their own narratives. Mastery of any artform always means knowing the structure so well that one transcends it.

Perspectives on Arts-Based Research

This book is the culmination of years of research and development in studying, creating and teaching sequential art. Within the context of a greater art education agenda, the hypothesis and findings of this book will hopefully contribute to the field of art education. Arts-based research is different from scientific research in that it requires bias and subjectivity as an essential factor in reaching conclusions as to the quality of the research. In *The Arts and the Creation of the Mind*, Elliot Eisner states,

«What has been problemized is the notion that knowledge is discovered ... implying that truth is independent of the perspective, frame of reference, values, or criteria used to define the truth. Put another way, what a society regards as knowledge depends upon the consensus of a critical community and the efforts of a researcher to use a form of inquiry that will meet the criteria that have been socially defined. Knowledge is less a discovery than it is a construction.» (Eisner, 2002)

Eisner makes the point that research need not be scientific to count as research, that arts-based research is equally valid. Arts also help us understand the world in which we live and are better suited for measuring intangible things. Eisner continues,

«...when perspectives on a complex matter have no chance of emerging, they cannot be taken into account. Arts-based research is a way to ensure that science-based research alone does not monopolize how educational practice can be studied or what needs to be done to describe it.» (Eisner, 2002)

A Constructivist Approach to Sequential Art

The Constructivist approach to sequential art in this book is via lesson plans that immerse students in the narratives provided. The lesson plans will follow the formula described in *Navigating the Teaching of Art* by Dr. Michael Parks and Dr. John Siskar and informed by research on contemporary practices in Constructivism. The focus will be on the making and experiencing of meaning through a process of art-making that has students work through the interplay of context, content and form.

It is essential to understand what context, content and form do the this process of artistic inquiry and aesthetic debate. The context of a work of art regards the influences of the artist's life, the art movement to which an artist belongs or rebels against and historic events at the time a work of art was created. Context also compares a work of art to other works of art made within the artist's career. Conclusions drawn from this can be both subjective and factual. Content regards reading the signs, symbols and other carriers of meaning within a work of art. These often have layers of meaning depending on the cultural and political views of the artist and viewer. Form is the medium of expression, including the history and use of the medium used, how it is used to convey meaning.

The sequential art narratives will challenge readers to find experience new ways of grasping essential ideas and questions that confront us in life. Students will need to create their own keys to unlock their own interpretations then validate their views through a performance task. Parks and Siskar state,

«Constructivist approaches to instruction, where students construct understanding instead of memorizing facts and mimicking techniques, best serve students: By organizing instruction around big ideas and essential questions, students develop not just a knowledge of art, but they build a rich and enduring understanding of art.»
(Parks & Siskar, 2009)

Wiggins and McTighe define understanding as being able to “teach it, use it, prove it, connect it, explain it, defend it, [and] read between the lines” (Wiggins and McTighe, 2005). When using this book, keep in mind that, as art educators, we are offering students this opportunity for cognitive development through the use of the six facets of understanding proposed by Wiggins and McTighe: the ability to explain, to interpret, to apply, to have perspective [on], to empathize, and to have self-knowledge. Their view is that a “complete and mature understanding ideally involves the full development of all six kinds of understanding.”

Some of the guiding principles of constructivism include learning for meaning. Students will construct meaning from any specific layer of meaning expressed in an artwork. Taking the Gestalt approach, meaning can only be understood in context of the whole, not merely by identifying the parts. In order to do this, the learning process must focus mainly on key concepts instead of isolated facts. The metacognitive aspect of constructivism has students identify their own ways of perceiving the world, the beliefs, values and cultural constructs through which they create meaning.

These structures of mental processing often change in order to accommodate new understandings when students can not use their current models of thought to apprehend key concepts. The purpose of this approach is for individuals to construct their own meaning, not just accept someone else's interpretation. The goal of this process is all about creating independent thinkers. This can be very challenging for students who are trained only to give "right" answers. When, through a constructivist approach, the responsibility falls on the student to create and defend their own right answer, the student finds their own relationship to life's big ideas and essential questions.

Constructivism impacts learning through the network of connections students make between the subjects. Through a hands-on problem solving approach teachers encourage students to analyze, interpret, and predict information. The lesson plans that correspond to the sequential art in Cognitive Comics rely heavily on open-ended questions and promote extensive dialogue among students. Students play a larger role in judging their own progress through self-reflective evaluation. Constructivism is a philosophy of learning founded on the premise that, by reflecting on our experiences, we construct our own understanding of the world we live in. Each of us generates our own "rules" and "mental models," which we use to make sense of our experiences. Learning, therefore, is simply the process of adjusting our mental models to accommodate new experiences. (<http://www.funderstanding.com/content/constructivism>)

Why Sequential Art?

There are so many other mediums of art that operate as a vehicle of cognitive development, why choose to focus on sequential art? Sequential art is a bridge between visual art and literature. Sequential art employs and cultivates visual literacy. Appreciating and creating sequential art cultivates the mapping of ideas in cause and effect connections. Sequential art is one of the oldest human forms of written communication, examples of which are the pictographic languages in Egypt and China. Sequential art, through imaginative reconstructions, is a direct expression of the imaging code that the brain uses to dream. Sequential art can help us comprehend and conceive of new cause and effect relationships.

The use of time in sequential art as an element is unique and a key ingredient for cognitive development. Sequential artists must make syntactic choices to chain together logical sequences of space and time. The magic of sequential art is the ability to slow or compress time, to lead the mind through a different experience of time that hyper extends real time. A good comic book or graphic novel can leave one with an powerful experience because the time we read on the page draws us into the world of the narrative, beyond our real time experience.

Vital to sequential art is the relation of words to pictures. When you watch a movie you are completely passive, the actors do all the decision making about delivering the lines such as the tone, pace, inflection and interpretation of the dialog. When you enter the world of sequential art and your inner voice reads the text, you take on the roles of all the actors in that narrative, including the narrator. You become the director of a cast of characters that are all you performing on the Cartesian stage of your own mind. As the

words and pictures are static on the page, your eye is free to roam, revisit, replay and extend the time portrayed between panels, as such you alter with the perception of time by repeating previous sequences in real time. This blurs the line between what is happening on the page and how the mind is organizing that sensory input. This can create a highly engaging and personalized experience of this artform.

Where as text and image are two different modalities of communication, together they make what comics godfather Will Eisner termed Sequential Art. Anyone familiar with Eisner's *The Spirit*, will see how he often integrates text as graphic. This visual device is not uncommon in graphic design, illustration and advertisements. Through the history of American comics text-as-image has evolved into its own kind of iconic typography. Comic book fonts used in film or advertisement clearly convey the context of American comic book history and have strong associations with action, science fiction, horror, suspense and adventure. Pop Art icon, Roy Lichtenstien also recognized this in his work. We cannot fully disassociate text and typography from sequential art, though in its purist form, sequential art is a visual language governed by a grammar of cause and effect. As such, I propose we redefine word as image and image as word within the context of this artform.

Scott McCloud breaks down sequential art into elements and his works are essential texts for educators endeavoring to create curriculum for teaching sequential art. In *Making Comics, Storytelling Secrets of Comics, Manga and Graphic Novels*. McCloud's chapter on "Writing with Pictures," lays out "The Five Choices" that encompass the elements of sequential art. Art educators will benefit their students greatly by teaching them how to recognize and navigate choices of Moment, Frame, Image, Word and Flow (McCloud, 2006).

I propose there should be another choice to this list, Choice of Color. Color can convey meaning and is a often a vital aspect of sequential art. McCloud expands on the subject of color in chapter eight of *Understanding Comics, The Invisible Art*. The most basic function of color is to establishes continuity from panel to panel, it provides recognizable characteristics that identify one person or thing from another. On a deeper level, color can be symbolic, it sets a tone or creates a mood, it can signify a flashback in time or give a powerful visual impact through the use of saturated complimentary colors. Time needs to be spent on comparing and contrasting the use of color in sequential art. A suggested list of artists to study would include Alex Ross, George Pratt, Steve Rude, Gene Yang, Jean Giraud, Frank Hampson, Scott Hampton, Tommy Lee Edwards, Richard Corben, Dave Dorman and Adi Granov. When studying sequential art, make a point to list McCloud's Six Choices in your classroom so that students may always keep them in mind while creating their own sequential art.

Sequential Art and the Brain

Prior to adolescence, drawing is an active part of human brain function. Children of all cultures instinctively want to draw and across world cultures, will conceive of similar

symbols to represent basic objects. A children from China, Africa and North America will all draw a very similar symbol for the sun though they were not taught how to draw it. Creating meaning through manipulation of tools to form graphic symbols is human nature. However, during adolescence, as the brain forms more towards linguistic and social development, development in visual art will dissipate if not actively engaged.

How might we reconcile this change in cognitive development? If we see sequential art as visual language, how does the teaching of sequential art effect the language centers in the brain? Could teaching sequential art as a form of graphic communication work in tandem with linguistic development? In turn, could linguistic centers in the brain aid artistic development? When language is visualized and structured in a symbolic syntax or graphic grammar, the meaning of words becomes more malleable. This has profound implications in terms of semiotics and the use of words in understanding and controlling perception. Students who are adept at visual language via sequential art narrative may obtain a higher level of linguistic development that could impact their lives on many creative and practical levels.

Cognitive Development through Art Education

In *Navigating the Teaching of Art*, the question is posed,

"What cognitive processes are needed in both creating and experiencing meaning in art...how might we develop these powers of thought more fully in our students? Both the making and consuming of art requires that the individual think creatively in their quest to make and find meaning in art. The individual must analyze, synthesize, evaluate, problem-find and problem-solve when making and consuming art. For an individual to have a meaningful encounter with a work of art, he must be able to empathize with the work, which suggests that teachers need to provide students with opportunities to practice reciprocity when viewing art. Your students need learning experiences that require them to activate and use the right sides of their brains. You can engage your students' emotional intelligence with constructivist assignments that enable them to find their own personal connection with the conceptual basis of the lesson." (Parks and Siskar, 2009)

The viewer of art has just as much responsibility to the art object as the artist has in creating the art object. Once a work of art leaves the studio and is in the public, it is open to all the forces of society and culture and must stand on it's own. The impact and relevance of the art work depends on what the public will make of it. When viewers experience art, they are seeing a mirror that reflects aspects of themselves and the world we share. We may be seeing into the world of the artist, we may be seeing how the artist views some aspect of the world, we may gain insight into new points of view or only see our own reaction to it. Either way, the artwork offers us a unique opportunity to expand our understanding of life and the world we interact with. Art education is an academic field that turns attention inward to the study of one's self, how we understand and interact with each other. It is the study and development of the holistic person in relation to the world. Art lovers have long term relationships with certain works of art that are deeply

meaningful to them, whether it be for aesthetic pleasure or conceptual impact. Even a work of art that is abhorrent to one's sensibilities is still an opportunity for cognitive and affective development.

Cognitive Comics: Theory and Hypothesis

In his 2007 article, *Learning from the Sequence: The Use of Comics in Instruction*, Mallia conducted a test of the use of sequential art as a form of instruction. These were tested on 90 students, average ages: 14-15 years, 45 girls and 45 boys, coming from four different schools in Malta. In a 45 minute session the text, illustrated text and comics treatment were given to each of 30 students. Once they had read the treatment they were given, the texts were collected and the students had to answer a questionnaire comprising 28 questions. Mallia describes the test details,

«The questionnaire was intended to test (a) short-term recall, primarily cognitive retention, and, to a lesser degree, (b) acquisition of knowledge, (c) comprehension of the text, and (d) imaginative application of facts acquired. The structure of the questionnaire was varied. Technically: 12 questions had 3 multiple choice answers from which the participants needed to choose 1; 4 questions had a controlled number of spaces in each of which single word answers had to be inserted; 12 questions left space for open ended answers, in which the participants could write between the length of a sentence and a short paragraph, as spaces varied from a single line.»

The Importance of Cognitive Dissonance

Where else, if not in art education, are students going to learn that the world provides us with many choices where the answers are not always black and white? While it is challenging to create rubrics that evaluate learning when the content learned is subjective, we must allow our students to become familiar with the unfamiliar. Cognitive dissonance in art should drive us to understand art, the process of which promotes cognitive, social, affective and even psycho-motor skills. The skills needed for evaluating art are the same skills needed for making art. Cognitive dissonance in art offers us the opportunity to hone these skills.

If we take responsibility as culturally literate citizens, we don't walk away from art with the excuse, "I don't get it." What is said by the artist is not nearly as important as how it is said. The magic of art lies largely in its use of metaphor, not only the image but the materials and context. When something is communicated this way, it allows the viewer to investigate and associate. The viewer's experience grows deeper with more information acquired about the artwork, the viewer then personalizes the experience through association with their own values, experiences and perspectives. When comparing knowing facts to understanding things, standardized tests promote a materialism of facts that don't function fully in a broader contextual reality. Circular logic and other forms of delusion or deceit are the pitfalls of teaching for testing rather than teaching for understanding how ideas function in the world. Perhaps the tendency toward memorizing and categorizing factoids is an instinct towards making the world safe and secure from what we may describe as cognitive dissonance.

When students engage art constructively, they are facing the front line where ideas do battle. What if we were to helicopter our students off to the middle of the jungle and tell them they have three days to make it back to civilization? This is a metaphor for teaching art constructively. The jungle is cognitive dissonance, it is what will make them strong, what will nourish them, it holds the clues to returning to civilization (artists might build a hut and stay though). Civilization is understanding. Each student can find their own way back, build their own tools for survival and come to terms with themselves on the arduous journey. Drop off a student in downtown Manhattan, all they have to do is look at any road map, grab a subway or taxi and they'll be back in no time. All the streets are laid out in grid pattern and labeled. Sure there are a few challenges but the student does not have to create their own path to understanding. The question arises, can learning for understanding happen without cognitive dissonance?

The sequential art provided in this book sometimes make use of cognitive dissonance. Straight narratives can also include moments of cognitive dissonance when panels seem out of place or the order of events don't immediately make sense. Although we expect "comics" to have a clear narrative, and this is essential for commercial success in comics (not so for underground "comix"), here I am presenting sequential art. In the context of viewing a visual narrative as a work of art, we seek out the intent of the artist. Through this process we draw our own conclusions and make our evaluations based on corroborating fact with feeling. Take the blue pill and I will show you how far the rabbit hole goes.

Is Sequential Art Really Art?

The question is answered differently when you ask historians, linguists, artists, and educators. If we pose the question to people these fields, it gives us a broad perspective of the power of sequential art as a medium. For example, what is the historic significance of sequential art as seen in comics? Is sequential art a form of language? Is sequential art a medium of cultural expression? Can sequential art act as an educational tool? This book presents sequential art as a medium of art that can be used as a tool for education.

There are many definitions of art that not everyone agrees on. Arthur Efland, in *Art and Cognition, Integrating the Visual Arts in the Curriculum*, says,

« It is an artist's interpretation of what he or she has seen, felt or undergone. It is an imaginative reordering of that experience and it's embodiment in a medium. This is as true for the school child as it is for the professional artist, although, of course the professional artist has accumulated a greater fund of experience and has a greater mastery of the media used to bring his or her vision to realization.» (Efland, 2002)

Whether we see sequential art as a form of art or a form of language, it is a means of expression for all ages. What makes it art is the intention to capture and express personal visions of one's ideas, feelings and experiences. Prior to evaluating the quality of any given work of sequential art, this definition differentiates a work of sequential art from, for example, an instructional manual using a sequence of images and text. As post-

modern art has torn down the wall between high art and low art, art educators should be able to find room to include sequential art within their definition of art in this age.

Chapter 2 **Teaching Applications**

Teaching Tips

In my workshops teaching sequential art, I repeat this mantra to my students: "Think of pictures as words, think of words as pictures." This approach knocks down the barrier that categorizing words and pictures separately. Words are the most abstracted form of visual representation. Put another way, words and pictures are both things we see that our mind interprets into meaning. It's known that when we read, as you are doing now, we don't stop to process every vowel and consonant but instead catch the first and last letters of each word. The mind recognizes the word as an image and quickly links them together to create understanding. Have you ever read a book where there are several new words and sequences of events that must be understood in order to move onto the next paragraph? You find yourself reading one paragraph a few times before you are really able to comprehend it and scaffold that understanding onto the next page. This scenario highlights how transparent the experience of reading is until we come across an unrecognized word or vocabulary from a foreign language.

Sequential art mirrors the theater of the mind. If you look at an icon of a smiling face and see the word "smile" beneath it, the eye projects this image into the mind where it is filed in relation to associated definitions and evaluated accordingly. The juxtaposition of this simple picture-word combination may trigger memories or imagination whereby the mind creates sequences and internal monologue. If that process were simply expressed on paper (or computer screen), it could be sequential art.

If one views the same smiling face accompanied by the word, "terror," then what cognitive processes might happen in the mind? How might this be expressed in sequential art? The cognitive processes may be very similar however some level of cognitive dissonance would most likely occur due to the conflict of word and image. While discombobulating, it offers us the opportunity for cognitive development because it presents a situation where the mind must construct deeper meaning to understand the artwork. Sequential art brings word and image into a joint relationship within a narrative and plays directly to our higher order thinking skills because of the continual deciphering, evaluating and prediction that cycles through the mind while reading the narrative.

I-Can't-Draw Syndrome

As drawing will be an important part of completing the assignments in the lesson plans at the end of this book, let's take a moment to look at the challenges present. In workshops I have taught for over four years, no matter how many times I draw attention to the storytelling aspect of sequential art, students will frequently look at their work disconcertedly and exclaim in despair, "I can't draw." Right away, one sees the enthusiasm and hope drain from their eyes as they recede into a state of defeatism. Here

are some things I have done to combat this debilitating experience.

- Narrative is the primary focus of a sequential art project. Students are not being evaluated on their drawing skill but on how well they communicate their narrative ideas through a sequence of words and pictures. Focus on the procedure and aspects of this artform, drawing skills will get better while you focus on storytelling. Explain to your students that narrative driven by expression of concepts is the motivation that cultivates drawing skills. An analogy is that one does not learn to read just for the sake of matching letters and sounds, one learns to read so they can acquire knowledge and communicate through the written word.
- Show a wide variety of graphic novels that show a broad range of artistic styles. Present sequential art with extremely simple, accessible drawing levels, high levels of technical mastery and everything in between. Focus on how the style serves the narrative, that the author's primary cause was to convey their story in their own way. Compare and contrast styles, isolate how style functions as an narrative principle.
- Outline for your class that there are generally four groups that technical mastery is not the defining factor in good sequential art. Do teach the value aesthetic beauty and mastery of technical skills, but give equal emphasis to the use of sequential art as a form of conceptual art. Conveying ideas and feelings are where your students should set their sites.
- Present and teach a range of drawing techniques to support their own sequential art narrative. Have students focus on one technique, for instance stippling, and apply that to their sequential art so that they can gradually develop surface qualities that will give them greater range of expression.
- Identify what the students are attempting to do when critiquing students sequential art, and find how these things have already been done, ie. speed lines, breaking the forth wall, typographic conventions, point of view, etcetera. There are numerous books on the market that teach these techniques and several ways computer graphics software can be employed to create a wide range of graphic devices that can help support one's narrative.
- Consider what can be done with photo manipulation. There are a number of talented artists in the comic book industry, Alex Maleev or John Van Fleet for instance, who combine photography with computer software, print making, water color and drawing techniques.
- Experiment with technology. There are a number of comics creator software packages available. This type of software allows one to use one's own photos and construct comics with page template and text features. This may be better suited for younger learners or as a layout process from which students can later draw. These programs, while highly recommended, are prepackaged and limit the creative opportunities of the sequential artist.
- Use the following analogies: athletes practice hard before playing a game, actors learn

their lines before going on stage, musicians practice every day before a concert, sequential artists must also practice developing drawing skills in order to apply them to publishing their narrative.

In my experience, it is a common misconception that you can either draw or you can't. It's understood that if you practice a sport or even an instrument for years, then you gain proficiency in it. However, people with little training in drawing seem to expect to get it right the first time and tend to give up trying if they don't see immediate success. Drawing realistically is very important to students in high school because they are at a learning stage where mastery of technique is important. As such, a carefully planned and scaffolded drawing course is appropriate for developing competence in drawing.

Teaching sequential art should not be any different than teaching any medium and its related history. If for instance you teach architecture, you will be sure to cover the major significant buildings and structures in art history, from the Mesopotamian Ziggurat to the Guggenheim Bilbao. You would be sure to show where and how arches were used, why flying buttresses were invented, and how architectural movements related to socio-cultural changes in history. You would be sure to make your architecture students literate in all the movements, significant examples and names of important architects. So should it be with sequential art. The history is much shorter but there are many significant art historical, aesthetic and socio-cultural features to sequential art that must be taught in order to make students truly literate in this American art form.

When readjusting the students focus on what is being taught, you might use the analogy of paper films. A film needs a writer, director, actors, concept designer, producer and numerous other people to collaborate. As a sequential artist, you are all these things. While this is daunting at first, take a moment to reflect that everyone, every single night, creates dreams. In dreams we write, design, direct and act out all the roles. This is an innate ability that we can tap into when creating original sequential art.

Scott McCloud, in *Making Comics*, presents four "campfires" around which artists tend to congregate. These categories are The Classicist who is driven by the quest for Beauty and mastery of technique (ie. Hal Foster). The Animist follows intuition and places emphasis on the content of the story (ie. Jack Kirby). The Formalist is devoted to the artform itself, putting craft and storytelling aside to experiment with new ideas (ie. Scott McCloud). Lastly, The Iconoclast holds authenticity as the highest value, the artform must mirror reality and the artist must never sell out (ie. Harvey Pekar). A unit could be taught where students research and create a poster for the classroom or their own studio that shows samples of sequential art from each group.

McCloud points out that artists tend to spend some time at each of the above campfires before finding the one that "shines brightest". Aesthetic debates can deepen understanding of these four categories and help students find their own affinities if students use McCloud's categories as a reference to understand the works of artists such as Mike Mignola, Charles Schultz, Bill Sienkiewicz, J. Scott Campbell, Goseki Kojima, Gerald Forton, Kyle Baker, Andy Runton, Ashley Wood, Jessica Abel, Basil Wolverton, Neal Adams, Steve Ditko, Trina Robbins, David Mazzucchelli, Daniel Clowes, Alfredo

Alcala, Rick Leonardi, Frank Robbins, Ron Garney, George Tuska, Frank Hampson, John Romita Sr., John Romita Jr., Mark Bagley, Lee Falk, Bill Griffith, Dale Eaglesham, Gray Morrow, Bernie Wrightson, George Pratt, Dame Darcy, Bernie Krigstein, Humberto Ramos, Josh Middleton, Wally Wood, David Finch, Alfred Harvey, Tony Millionaire, Kevin McGuire, Don Martin, Eric Powel, Joe Kubert, Paul Grist, Lynn B. Johnston, Lee Falk, Dave Dorman, Ben Templesmith, Jack Davis, Mark Shultz, Guy Davis, Amy Reeder Hadley, Jacke Cole, Craig Thompson, John Buscema, Charlie Adlard, Al Jaffe, Mike Allred, Stan Sakai, Winsor McCay, Cory Walker, Gil Kane, John Byrne, Mark Chiarello, Ron Garney, Bruce Patterson, Dale Eaglesham, Ryan Sook, Jesse Santos, Larry Marder, Scott Morse, Esteban Maroto, Kevin Nowlan, Don Newton, Linda Medley, Hugo Pratt, Bruce Timm, Graham Nolan, to name a few.

Rubinstein's Holy Trinity

My mentor and friend Josef Rubinstein has tutored me in many aspects of comic book illustration and history since 2002. Rubinstein started his career in comics at the age of thirteen, has trained under and worked with every legendary creator in comics and is considered a living legend of the comic book industry. When approaching the teaching of sequential art, Rubinstein presents his theory of degrees of separation, a family tree of that gives structure to the aesthetic evolution of sequential art. Being an immigrant who spoke no English as a child, he learned to read and speak English largely through comic books.

Rubinstein states that most comic book illustrators' styles can be traced back to "*The Holy Trinity*"; Hal Foster (Prince Valiant), Alex Raymond (Flash Gordon), and Milton Caniff (Terry and the Pirates). Just as we can see the lineage between teachers and students in art history, so can we find a connection between styles and artists in the ever-expanding American comic book industry. When considering how the art history and aesthetics of sequential art can be taught, *Rubinstein's Holy Trinity* provides educators a road map for navigation. It's significant to define comic book illustration as different from comic strip illustration in that news paper strips used much more "cartoony" art. A lot of sequential art in comic books employ a wide range of styles from cartoony to photo-realistic. Comic book illustration refers to stylized realism, it can employ a high level of graphic design, be surreal or generally give a heightened sense of reality. These three artists provide a starting point from which art educators can also teach a time line of sequential art as it parallels shifting events in American culture and world history.

Don't Dumb it Down

As art educators, we base our yearly lessons on a variety or works of art, none of which were designed for our lessons. That is to say, a photograph from Cindy Sherman was not tailor made just for your syllabus. Artists obey their instinct, they don't create artwork so that it can be taught in schools. Hence, teachers choose the layer(s) of meaning they want students to focus on and if students see deeper into the work under study, they earn exceptional grades. Similarly, the sequential art works I have created for this book are works of art with their own integrity and several layers of meaning. These works of art touch on a wide range of cultural, social, historic, psychological and

intellectual subjects. While it is essential for teachers to relate works of art to the lives of their students, we should also bridge outward and expand the student's knowledge base. What is unique about this book is that the lesson plans bridge the artwork to the teacher's needs.

Parks and Siskar tell us,

"For an individual to have a meaningful encounter with a work of art, he or she must be able to empathize with the work, which suggests that teachers need to provide students with opportunities to practice reciprocity when viewing art. Your students need learning experiences that require them to activate and use the right sides of their brains. You can engage your students' emotional intelligence with constructivist assignments that enable them to find their own personal connection with the conceptual basis of the lesson." (Parks and Siskar, 2009)

Cognitive development through the study of art depends on the plan teachers provide for student's to find their own relationship with the artwork under study. Even if a student does not like the artwork under study, that student must be able to articulate this evaluation. Remembering Bloom's Taxonomy, Evaluation is the highest form of higher order thinking skills but lets distinguish this from mere opinion. After students accumulate knowledge from researching the various social, historic and aesthetic contexts of a work of art, how will they synthesize this information with their own knowledge base and expand their understanding of the world? Park and Siskar say, "Constructivist approaches to learning require that students engage and develop their higher order thinking skills and view problems from multi-disciplinary perspectives." Once this is done, a student can then evaluate the work under study. The "reciprocity" referred to above is the process that develops higher order thinking skills.

One of the single greatest factors preventing comics and sequential art from becoming an established teaching tool is that there don't seem to be many comics creators who can bring these two complex worlds together. Certified teachers, art or otherwise, trained in lesson planning, instruction, evaluation and adaptation can, of their own creativity, mainstream graphic novels and comics into their coursework so that it helps them achieve state standards. Without being trained in creating comics this limits their ability to reach beyond the literary realm of sequential art. The market is saturated with how-to books and websites for different levels of skill in sequential art and writing, however, there is still a chasm between the world of comics creators and teachers. This book aims to bridge this gap by creating comics that support the needs of educators and their students.

One likes to think that anyone can learn how to write and illustrate sequential art, however in an academic setting, the question is not how but why. What sometimes further compounds the issue is that numerous articles on comics in the classroom are written by savvy reporters who only really possess a superficial knowledge of the educational comics phenomenon but spin well crafted articles that give readers a topical impression of a cool new trend. While the intentions are good, this treatment is misleading to educators who have heavy responsibilities and are serious about their students' academic achievement.

Educators will find that most graphic novels are not written with the classroom context in mind. Even though comics have been associated with children over the years, there is enough violence and adult material that make it difficult to find classroom-friendly graphic novel. If teachers are looking for appropriate reading material they would do well to research trade paperback reprints of comics created in the Silver age (1956 - 1973) and Bronze age of comics (1973 - mid 1980s) when the comics code was still in place. While in some places these reprints are not contemporary in feel, this acts as a springboard for discussion on socio-cultural and political changes. Another reason is that art of the Silver and Bronze age of comics showed a culmination of generations honing this American illustrative tradition, producing works that are still revered by comics readers and critics today.

Why Super Heroes?

Why not? What culture does not have mythic heroes that establish role models of justice and lead the way through life's transformative journey? This is how I understand super heroes; super heroes are contemporary American mythology. They make great vehicles for allegory, they can be anthropomorphized elements of psychology and culture. They are accessible abbreviations of complex human emotions and concepts and as such can convey meaning in new ways. They can impart complex messages through parable. They are not fixed in definition as are ordinary people, they can transcend stereotypes. They can symbolize or challenge notions of identity. Super heroes can represent hopes and fears, reflecting the real world in an imaginative way. Super heroes are an American cultural idiom that span generations, class and ethnic differences. Comics are the only medium that are mistakenly pigeon-holed as a single genre. For instance, when we say we are going to see a movie, people don't ask us what Western we are going to see. When we go see a band, people don't assume that all bands play country music. However, comics are still widely assumed to be just super heroes and super heroes are assumed to be just for young people. This book aims to challenge notions about the super hero genre which is so closely associated with sequential art.

The super hero as metaphor can encompass all aspects of human experience the same way ancient mythology reflects the human condition. The idea of super hero as modern mythology is almost hackneyed within comic book creator circles but it is a notion that is still new to popular culture. This is not to say that super heroes as a genre is the best genre or only type of literature readers should buy, but rather that that public should recognize there are as many possibilities and layers of meaning to this genre as any other. The problem is not that super heroes don't already have depth and breadth but that they are heavily stereotyped. Many adults would think nothing of talking about a science fiction movie or book, but might feel hesitant to purchase a super hero graphic novel. The relationships that people make with their favorite television characters is no different from the relationship readers have with their favorite super heroes because these characters are no longer the two-dimensional super heroes of yesteryear. The presence of these stereotypes are some of the challenges to making sequential art a standard art education curriculum. This is embedded in the misconception that all comics are of the super hero genre. It behooves art educators to explore a variety of genres in this medium

to become literate enough to counter these stereotypes when presenting sequential art as a medium worthy of study.

Super heroes are part of the greater cultural narrative of America. Allegories such as Superman and the Jewish immigrant experience or the X-Men and Civil Rights are the Illiad of our people, the Odessey of our time. When using either the sequential art narratives provided in this book or studying other narratives about super-powered beings, ask what allegory or symbolism the characters have. Make connections with contemporary or historic people and events, don't just take a literal view of these characters.

The Japanese Invasion

There has been much wrangling over the years about the dominance of super heroes in the comics market and many young collectors today identify more with manga (mahng-gah), which represents a very different cultural narrative. Japanese comics originated from the American occupation after WWII and have grown to be a part of Japanese culture. While Manga covers a wide variety of realistic and fantasy topics (some of them inappropriate for the classroom), it could be argued that manga threatens to further stigmatize the super hero genre and dominate the American comic book market. This is partly due to the flooding of bookstores with Japanese graphic novels that are inexpensively produced (black and white) by teams of illustrators imitating the Japanese national style. Fans in the comics / graphic novel market are divided on the subject of American comics versus Japanese comics and this could spill over into a classroom setting if sequential art is taught for cognitive development. Ironically, many of the popular manga characters have super powers but are not defined as super heroes. Sequential art is, itself, still entrenched in a variety of cultural, linguistic and market forces that obscure the artform, however, any style of sequential art is worth investigating for educational purposes because of the structure of sequencing words and images.

Teaching sequential art, you may find that some students draw in the manga style. It has a great appeal to emerging artists as it is relatively quick and easy to learn. One interchanges a number of basic templates for figures, facial expressions, hair, clothing, etc., the result of which is a highly homogenized and stylized form of cartooning. Once the student learns a cache of these templates, he or she can easily repeat the same techniques to produce their narratives. The founding principles of these cartooning techniques are also found in American comic book and animation techniques, however the Western counterpart is far less homogeneous in that each character is not bound to the visual code of a cultural style. For example, characters in a Warner Brother's or Walt Disney narrative are all cartoons but they each have their own characteristics. These characters are not bound by stylistic rules to have the same shape heads, eyes, noses or mouths. The limitation of these manga style templates is both what attracts some fans and repels others.

With the popularity of Japanese animation (anime) and manga style toys and card games, it's no wonder that students would enjoy drawing their favorite characters in this style. Overcoming the challenges of learning to draw, the manga method allows students

to have a relatively high rate of success in recreating a cookie-cutter style of sequential art. Due to the popularity of this method, many students are gaining confidence in their ability to draw, however a common complaint of art teachers is that the students who are skilled in the manga method get so attached to it that they are not willing to learn any other way of drawing. Enjoying the praise of their classmates, these students are resistant to making other kinds of art outside the comfort zone created by manga style drawing..

If the standard for drawing is lowered from realistic, Western perspective drawing to Japanese cartoon drawing, it makes drawing more accessible to a greater number of students. Paradoxically, the manufacturing of manga characters has made it harder on art teachers to teach art. Students who have grown adept at this style of drawing, who may not be open to learning the American illustrative tradition, must then be focused on developing their story-telling skills. Teachers may also compare and contrast the styles of artists who have successfully formed manga hybrid styles, artists such as Olivier Coipel, Francis Leinil Yu, Jim Cheung, Chris Bachalo and Ron Lim. Another unit can be spent on comparing and contrasting Archie Comics publications to manga because this is an iconic American publishing company that has positive parallels with manga that fans of manga might find engaging.

As art educators, we have a responsibility to protect and cultivate our American cultural heritage. While embracing cultural diversity in art, we must also be wary of the manga industry imitating our culture and selling it back to us. When American kids know more about Japanese comics than their own, the concern arises; is the presence of Manga enriching or deteriorating our cultural heritage? So long as manga is critiqued within it's own cultural context, educators of sequential art can be safe from eroding originality in their art students.

It is important to note that publishing phone book sized manga magazines monthly, many Japanese manga companies have teams of artists that work on these titles. In order to publish at this rate, there cannot be individualism in art style. Each illustrator has to produce the same style in the story so pages can be rapidly manufactured and seamlessly packaged. While there are many graphic novelists who have created variations on the Manga style and do not have a team of illustrators to produce their original work, this is a convention that preceded and established the manga tradition. Parents and educators have to monitor under aged manga readers because there is a significant amount of adult material that is mixed into plot lines or sold along side innocuous manga online or in book stores.

An essential difference between Japanese and American culture is the difference in how we view tradition and individuality. Asian cultures, due largely to Confucian influence and long standing feudal structures, place value and priority on the group one belongs to whereas American culture, due largely to our cultural heritage related to the U. S. Constitution, places the individual at the top of the priority pyramid. For example, we don't refer to each other by our family names but rather by each other's first names because we acknowledge each other as individuals, not as a sub-set defined by a larger national, generational or family clan. The Japanese value in art, traditionally, is to maintain the tradition whereas the American value is to transcend, reinvent, deconstruct

or improve tradition. Teaching American students manga presents challenging questions to the art educator in that it is not our job to teach "taste" or "style" in sequential art, but that we need to bring the most objectivity and broadest contextual view so that students can come to their own conclusions on the artistic, cultural and market forces effecting their viewpoints. Scott McCloud put well, "Discovering your own "style" is a deeply personal process which can take years - - and it can't be taught in a book."

Critique and Evaluation

When grading students on learning the lessons provided in this book, these are guidelines that students should be made aware of at the outset.

- The skills used for critiquing art are the same skills used in making art.

The metacognitive application of this instructional method is to make students clearly aware not only of what they are learning but how they are learning. Let them enjoy aesthetic debate and art criticism as an exercise of their cognitive and affective abilities. Remind them to think about how they evaluated the sequential art when it is time for them to create art for the assignments in this book.

- Always answer these two questions: What is it? Do I like it?

The simplicity of these questions betrays the complexity of their process but this boils aesthetic critique down to it's bare bones. When writing responses to the sequential art samples, students should use Thomas Anderson's Art Criticism Model below:

1. Reaction - Write your initial and first response to the work.
2. Perceptual Analysis - Write a thorough description of the artwork under study.
 - a. Representation
 - b. Formal Analysis
 - c. Formal Characteristics
3. Personal Interpretation - Subjective opinions must be backed up with examples that defend your point of view.
4. Contextual Examination - Identify different layers of meaning related to different contexts of the artwork. Here is where you point out the social, political, historic and cultural significance of the artwork under study.
5. Synthesis - Combine all the above to form your conclusion.
 - a. Resolution - Has your understanding and appreciation of the artwork changed from your initial reaction in the first question?
 - b. Evaluation -

Evaluation is the highest level of cognitive development, Anderson's model is a comprehensive path towards the goal of this book.

Chapter 3 Metacognition Technician

In the Navigation of Teaching Art, Parks and Siskar write, "According to Gestalt psychologists, the rules that govern how the brain organizes and processes information taken in through the senses parallels the rules of composition, suggesting that works of art are models of human thought." (Parks & Siskar, 2009). One may say that artists 'objectify' their ideas, they make an object of their cognitive and affective processes. The art object is the evidence of the process of thought and feeling for others to experience, interpret and evaluate."

Taking a metacognitive approach to learning whereby the learning process is taught along side learning art gives students a broader set of learning skills by including self-reflective skills. Students who are engaged in metacognitive activities gauging their own learning processes can grow into self-regulated learners equipped with cognitive skills they can apply to any endeavor.

Metacognition helps people to perform many cognitive tasks more effectively, those concerned with an ongoing attempt to plan, check, monitor, select, revise, and evaluate their own creative projects act as both director and actor. Being able to operate both objectively and subjectively shows a sophisticated level of learning that can benefit other academic goals and produce students who think for themselves. Students should be led not only to have problem solving skills but problem finding skills. Students should be led to use inquiries such as "What do I already know about this topic? How have I solved problems like this before? What are the issues and what is the best strategy for dealing with them?" Brainstorming, writing and creating graphic representations that map their strategies such as concept maps, flow charts, semantic webs are metacognitive activities art educators can use to kick off units of study.

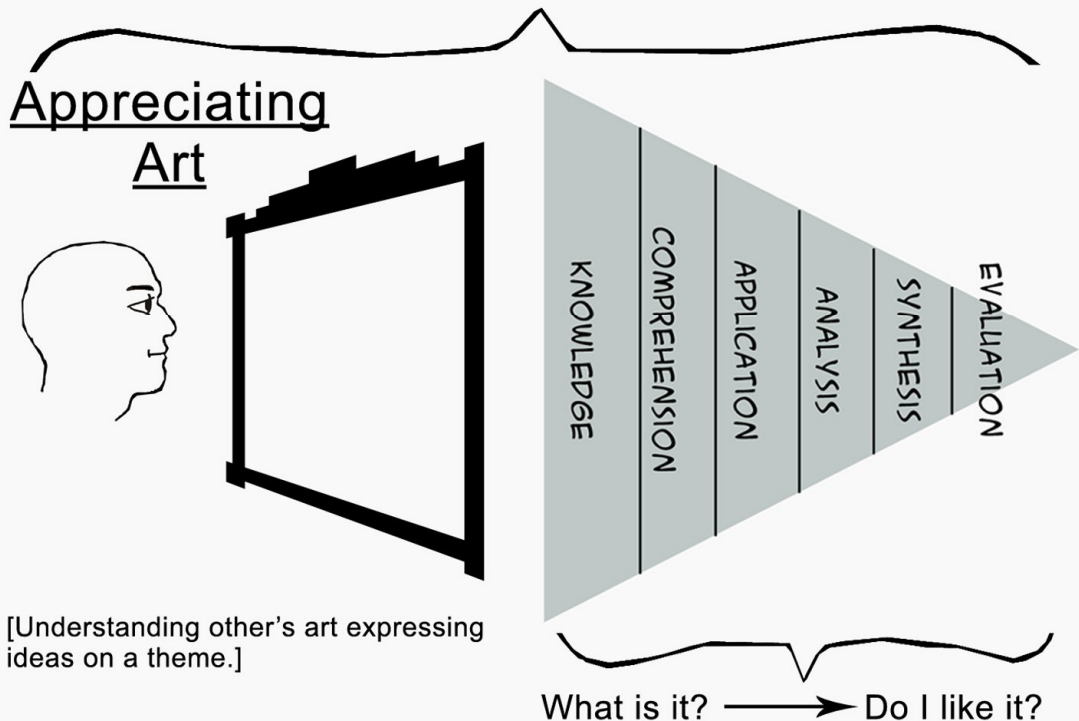
Metacognitive Map

I have created a visual device that maps out the process that connects art appreciation with art creation. My metacognitive map can be made available to students and should be referred to throughout the instruction and creation of each unit of study. This is not suggested as the only way to teach art but offers a structure from which art educators and students alike can understand the learning art as a form of cognitive development. Starting from Bloom's Taxonomy, which outlines the hierarchy of cognitive development. The lowest level of cognitive activity, the domain of Knowledge, is where accumulating and memorizing facts are the first stage of cognitive development. This is the level traditional standardized tests grade students on. While I am utilizing this hierarchy in proposing a method of teaching art, it can and should be applied to all fields of study.

In this Metacognitive Map, Benjamin Bloom's Taxonomy of Cognitive Domains is used to illustrate a linear process of idea-based art that starts from learning about the key concepts expressed in an artwork then transfers that understanding into a process for making art responding to these key concepts. The skills for appreciating art are the same skills for making art. The Metacognitive Map below illustrates a process of reaching an evaluation of a layer of meaning (your key concept), then reverses that cognitive process from the conceptual stage to the production stage.

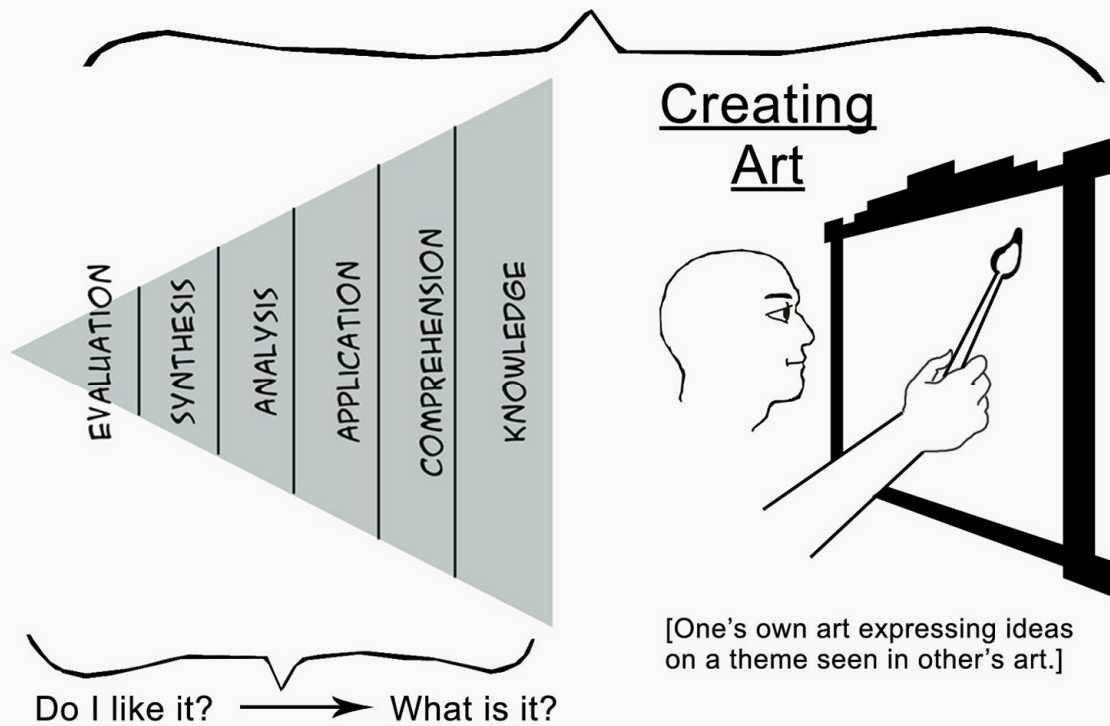
Phase One: Formal to Personal.

- Experience the work under study, gain knowledge of how it's formal elements and principles communicate meaning.
- Paraphrase and translate the meaning through writing and aesthetic debate to explain the purpose and/or statement.
- Transfer the artwork's meaning to real life contexts and identify its relationship to the world. Write an objective that applies this knowledge to a problem that the artwork addresses.
- Identify the artwork's logic, semantics of the aesthetic debate and key concepts. Compare and contrast this artwork with others of a similar theme.
- Synthesize the previous steps into a hypothesis and classification of art (media, style, history, significance). Express one's own relation to the art work.
- Evaluation of the artwork: students must justify their views, appraise the quality and significance of the piece and provide original critique based on their views and the world context relevant to the artwork.



Phase Two: Personal to Formal.

- Inspired by the artwork, students backward design a work of art that conveys their own conceptual and affective response to the evaluation of the artwork.
- From this response, students synthesize their own experience into the design to express their relationship to the key concepts
- Written and spoken analysis of concepts being express in their artwork with strategy of expression towards creation of idea-based art.
- Test application of design in creation of small scale studies leading to final artwork. Self-evaluation on consistency of ideas and the artwork.
- Write and discuss one's artwork with peers to test how well your piece "works", make adjustments to final piece that express your core concept. Final production.
- Exhibit artwork and accumulate knowledge of the key concepts through public response to your art work.



Metacognitive Map of Art Education created by Donald Jackson © 2009

A Whole New Mind

In Daniel Pink's book *A Whole New Mind, Why Right-Brainers Will Rule the Future*, he outlines six aptitudes where people must excel to do well in the Conceptual Age. Pink calls these aptitudes *The Six Senses: Design, Story, Symphony, Empathy, Play and Meaning*. All of these are essential reading but the chapter on Story is of real significance to Cognitive Comics.

In the Information Age people from all over the world gained access to facts more easily than ever, the Internet has become the world's library. With such a level of availability, Pink argues, "What begins to matter more is the ability to place these facts in context and to deliver them with emotional impact." If you were to write your autobiography, would you put it in narrative form or list it as a resume? The resume is no less true but the narrative of events inbetween these bullet points are what make your story meaningful and engaging. Another way to look at the importance of story is to tell how you got that dream job, what it was like and why you left it. I will understand much more about you from your story of the job you had than just by reading that you had that job on your resume.

All of *The Six Senses*, as Pink calls these aptitudes, are integral and inherent to creating and appreciating sequential art narrative. Sequential art narratives are the perfect vehicle for learning and enhancing these. A student of sequential art must *Design* their characters, world and plot. For *Story*, the student must interpret and interact with their own personal narrative, historic narratives and other people's lives in order to create the written and illustrated script. *Symphony* involves the cognitive, social and emotional intelligence to organize all these elements and principles into an artform. *Empathy* in sequential art narrative is the ability to direct and act through your characters, manipulate camera angles, set designs, lighting, pace, sub-plots and other aspects of this medium that all coordinate to make the reader feel what the author cares about. Lastly, *Play* is joined at the hips with traditional comic books due to the wonderfully imaginative history of superheroes, space adventures, Sunday funnies and even in horror and crime genres. Play exists not only in the plot but in the choice of style, layout, materials and typography used to expand the medium of sequential art.

With all these reasons to teach sequential art as a standard art curriculum, art teachers of today will develop a whole new mind for their students to navigate and master the Conceptual Age and beyond.

References in Order of Appearance

1. Cohn, Neil. What is visual language? (2007). [Graph illustration, 2007]. Retrieved from <http://www.emaki.net/vislang.html>
 2. Addison, Nicholas. Who's afraid of signs and signification? Defending semiotics in the secondary art and design curriculum. Chapter 10, p. 113, *Art Education in a Postmodern World* by Tom Hardy (originally printed in the *Journal of Art & Design Education*, volume 18 (1) 1999). Retrieved by <http://books.google.com>.
 3. Eisner, Elliot (2002). *The Arts and the Creation of the Mind*. New Haven & London: Yale University Press.
 4. Eisner, Elliot (2002). *The Arts and the Creation of the Mind*. New Haven & London: Yale University Press.
 5. Parks, Michael & Siskar, John (2009). *Navigating the Teaching of Art*.
 6. Work Cited: Wiggins, Grant, and Jay McTighe. *Understanding by Design*. Expanded 2nd Edition. Alexandria, VA: ASCD, 2005. Retrieved from <http://www.huffenglish.com/?p=361>
- Page 8 Wiggins and McTighe citation <http://www.huffenglish.com/?p=361>
7. Written by On Purpose Associates. Retrieved by <http://www.funderstanding.com/content/constructivism>.
 8. McCloud, Scott (2006). *Making Comics, Storytelling Secrets of Comics, Manga and Graphic Novels*. New York, London, Toronto, Sydney: Harper.
 9. Parks, Michael & Siskar, John (2009).
 10. Mallia, Gorg. *Image Text: Interdisciplinary Comics Studies*. ISSN: 1549-6732 Volume 3, Issue 3 (2007). Retrieved from http://www.english.ufl.edu/imagetext/archives/v3_3/mallia/index.shtml?print
 11. Efland, Arthur D. (2002). *Art and Cognition, Integrating the Visual Arts in the Curriculum*. New York & London: Teachers College Press, Columbia University.
 12. Parks and Siskar (2009). *Navigating the Teaching of Art*.
 13. McCloud, Scott (2006). *Making Comics, Storytelling Secrets of Comics, Manga and Graphic Novels*. New York, London, Toronto, Sydney: Harper.
 14. Parks and Siskar (2009). *Navigating the Teaching of Art*.

15. Pink, Daniel H (2005, 2006), A Whole New Mind, Why Right-Brainers Will Rule The Future. Riverhead Books, New York.

The following are a list of resources that are useful in teaching sequential art:

Donald Jackson's web space corresponding with this book:
www.CognitiveComics.com

Scott McCloud:
<http://scottmccloud.com/>

<http://graphicclassroom.blogspot.com>

Josh Elder
<http://www.readingwithpictures.org>

Neil Cohn's Visual Language website:
<http://www.emaki.net/>

Comics In Education by Gene Yang:
<http://www.humblecomics.com/comicsedu/index.html>

University of Florida - Comics Scholar resources
<http://www.english.ufl.edu/comics/teaching/index.shtml>

Image Text - Interdisciplinary Comics Studies
<http://www.english.ufl.edu/imagetext/links.shtml>

Drawing Words and Writing Pictures, sequential art drawing curriculum by Jessica Abel and Matt Madden:
<http://www.dw-wp.com/index.html>

Ephemeral Landscapes - A Project in Material Culture
<http://www.chass.toronto.edu/~mfram/Pages/002-sitemap.html>

Ohio State University - Cartoon Library & Museum
<http://cartoons.osu.edu/>

International Comic Arts Forum
<http://www.internationalcomicartsforum.org/icaf/>

The Comics Journal
<http://www.tcj.com/>

Literary classics illustrated
<http://www.classicalcomics.com/>

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Publishing Disclaimer

This book will first be available as a .PDF eBook at <http://www.cognitivecomics.webs.com> for the purposes of submitting to the State University of New York College at Buffalo Office of Undergraduate Research by the deadline, August 19, 2009. It will not be published in book format for the public until a later date, after the author has acquired his NY State teacher certification. The final published version of *Cognitive Comics: A Constructivist Approach to Sequential Art* will include sequential art and art education lesson plans corresponding with the sequential art provided. The mentor's book, *Navigating the Teaching of Art*, is also in final edit by its publisher. If the reader has come into possession of this eBook, please acknowledge that it is for the purposes of submission to the the State University of New York College at Buffalo Office of Undergraduate Research and do not copy or distribute this publication without the written consent of its author, Donald Jackson. For more information visit <http://www.cognitivecomics.webs.com>.

Cognitive Comics: A Constructivist Approach to Sequential Art
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