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Marshall, Julia
Art Education; Nov 2006; 59, 6; ProQuest
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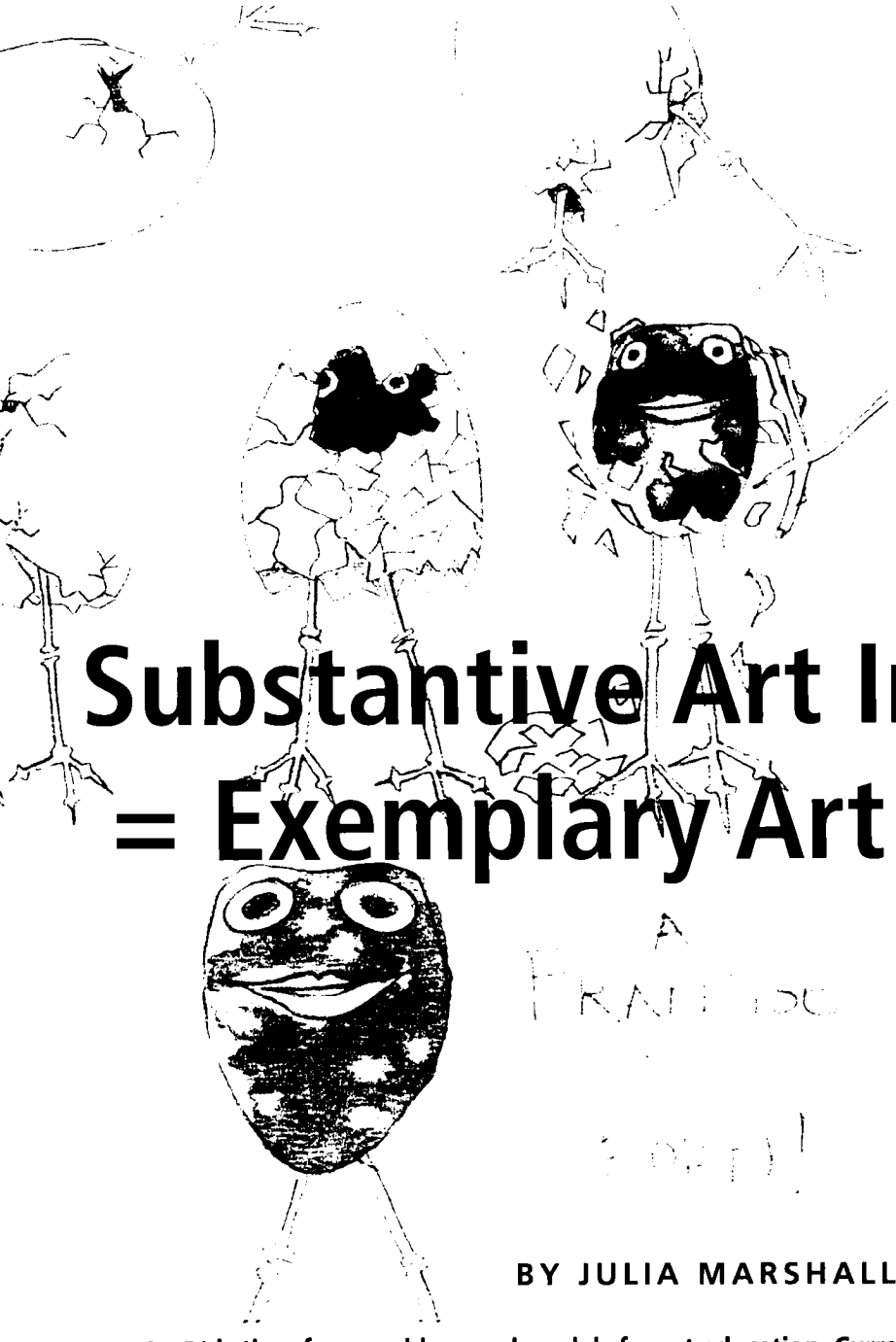


Substantive Art Integration = Exemplary Art Education

BY JULIA MARSHALL

It is time for new ideas and models for art education. Current developments in contemporary art, learning theory and in art education itself demand new approaches and provide inspiration and guidance for change. Each area brings particular components to the table but they all have one primary element in common: a call for an art education that is better connected to the concepts and ideas behind art and art practice, and to areas of inquiry outside of art. I propose an art education that is built on these broad and deep connections. I call it *substantive art integration* and believe it to be a core principle of an exemplary art education. Here is a summary of the foundations of this approach, an explanation of substantive integration and a sample project that demonstrates how it plays out in practice.

Contemporary Art

Contemporary postmodern art offers new ways for understanding and making art. Current art is eclectic, taking many forms, styles and approaches. It often quotes images and styles from visual culture and global visual traditions, as well as from Western art history (Efland, Freedman, & Stuhr, 1996). It is conceptually based, and it emphasizes ideas (Freedman, 2003a). It also frequently uses irony and humor created through surprising juxtapositions and incongruous combinations. It finds new forms, processes and content in areas outside the domain of art (Marshall, 2005). Above all, contemporary art is focused not on pure form or aesthetic pleasure but on making meaning or reinterpreting meaning (Efland, Freedman, & Stuhr, 1996).

Therefore, contemporary art practice promotes an art education that: (1) foregrounds thinking and conceptualization, building conceptual and technical skills simultaneously; (2) utilizes current art strategies; (3) appropriates or quotes images from visual culture and art; (4) looks at art in an anthropological way—examining how art expresses cultural

values and meanings; (5) teaches a myriad of techniques, materials, forms and art genres, including experimental and interdisciplinary genres; and (6) has meaning-making as its primary objective. Because current art focuses on content from all areas of life, it also calls for curriculum integration.

Cognitive Theory: Constructivism, Connections and Imagination

Constructivism had its origins in the early 20th century in the pragmatist theories of John Dewey (2001), and was shaped by two seminal figures: Jean Piaget (1963) who explained learning in terms of an individual acting autonomously, and Lev Vygotsky (1978) who understood learning as a process influenced by culture and dependent on interactions with others (Efland, 2002, Freedman, 2003b, Noddings, 1995). The two major branches of constructivism, the cognitive-developmental approach (Piaget) and sociocultural theory (Vygotsky), share some core tenets and are at the center of current learning theory (*connectionism*) (Bransford, Brown, & Cocking, Eds., 2000). Its basic principles are: (1) learning is a connection-making process, where the learner links new experience to prior experience in order to acquire new information and to make sense of it; (2) the learner constructs his or her knowledge; (3) learning is an active process of interaction and experimentation; (4) knowledge is built through successive steps that build upon one another; and (5) we learn most often from others.

Understanding is the ultimate goal of learning (Bransford et al., 2000), and a good way to build understanding of information is to use or apply it (Dewey, 2001). This is where art comes in. An art lesson calls for students to translate information into visual images or to take that information further and to apply it in imaginative ways. Imaginative applications build understandings of the information. Making imaginative projections leads to learning that is personal and meaningful because the learner plays with the information and construes it in his or her own way.

In this approach, art finds its content in all areas of human thought and activity. Therefore *art as research* calls for an art education that is inquiry-based, concentrates on learning as the goal, is guided by learning theory and is also fully integrated with other areas of thought.

Constructivists also understand play as a mode of learning (Vygotsky, 1978). Play is experimentation and depends on imagination to see multiple applications and a sense of freedom to try many new or different things. Creativity in artmaking demands a sense of freedom and play (Szekely, 1988). However, constructivism suggests that learning is best accomplished when there is some structure. Artistic play is essentially a learning process and therefore requires organization, guidelines and goals with room for individual experimentation and interpretation (Pitri, 2001). Constructivist learning theory also calls for project-based learning where lessons build upon each other (Katz & Chard, 1989). Art projects with multiple lessons or steps are good examples of this. As the central theme of constructivism is connection making, it calls for art lessons that are connected thematically, where concepts are introduced and revisited in many ways. These themes should be *big ideas*, *key concepts* or *essential questions* (Daniel, Stuhr, & Ballengee-Morris, 2006)—themes that stem from and have meaning in life (Anderson & Milbrandt, 2005). With its emphasis on conceptual connections, constructivism also suggests that learning in all subjects, art included, is facilitated and enhanced by integration with other subjects.

Art as Research (Art Education Theory)

The notion that artmaking constitutes a form of research is gaining momentum in art education with texts by Sullivan (2005), Gray and Malins (2004) and Macleod and Holdridge (2006) providing insights into its theory and practice. *Art as research* calls for a radical rethinking of the premises for making art. Knowledge construction replaces personal expression, object-making, and aesthetic pleasure as the primary goal of art practice, and image- or object-making is viewed as an integral part of a learning process. Therefore, the cognitive processes that underlie image-making become the focus. The role of visual imagery in creating, distilling and embodying ideas and in generating insight and learning are highlighted. *Art as research* also fuses learning/research with creative process. It understands creative process as the way in which artists create new knowledge through experimentation, reflection and imaginative synthesis and projection. It also emphasizes how artmaking generates knowledge, not by coming up with new facts but by reinterpreting or restructuring knowledge (Sullivan, 2005). In this approach, art finds its content in all areas of human thought and activity. Therefore *art as research* calls for an art education that is inquiry-based, concentrates on learning as the goal, is guided by learning theory and is also fully integrated with other areas of thought.

Art Education Principles and Structures

National and state frameworks and standards in art education promote an arts education that is reflective—calling for a deeper and broader approach to thinking in art. Based on California standards and frameworks, there are five areas through which to channel thinking about art and art practice: *aesthetic perception, aesthetic valuing, cultural heritage, creative production,* and *connections, applications and extensions.* With *aesthetic valuing,* the frameworks require lessons to focus on meaning and examine art images as meaning-makers and mediums for communication. With *aesthetic perception,* they promote the

notion that the formal qualities of art constitute a language through which ideas are explored and conveyed. With *cultural heritage,* they connect art to other cultural expressions and place art in the context of culture and social life. Creative expression indicates that making original images and objects is a critical component of arts learning. The last category, *connections, applications and extensions,* explicitly calls for finding the intersections between art and other areas of inquiry. The art education principles represented in standards and frameworks necessitate lessons that go deep: mining the concepts behind images, ideas and processes—and broad: making a web of connections between art content, artmaking and other domains and ideas. Therefore, they do not isolate art as a hermetic field but call for an integrated arts education that connects to all areas of inquiry.

Substantive Art Integration

Pictorial image-making fosters understandings of concepts from disciplines outside of art (Edens & Potter, 2001). Artmaking is a medium through which we learn, interpret and communicate about life and the world (Anderson & Milbrandt, 2005). These stances suggest that integrating art into the curriculum makes sense. Moreover, integration does not devalue art as a domain unto itself but acknowledges its power and scope (Marshall, 2005). Integration comes in many forms, ranging from the most superficial (illustrating content from other domains) to deeper explorations (examining concepts that domains have in common). True integration is a substantive approach that explores and explicates connections between areas on a conceptual and structural level (Clark, 1997). In art, this means exploring fundamental commonalities and differences between art and other areas (especially how ideas are researched, conceptualized and communicated) and making them explicit through art practice (Marshall, 2005).

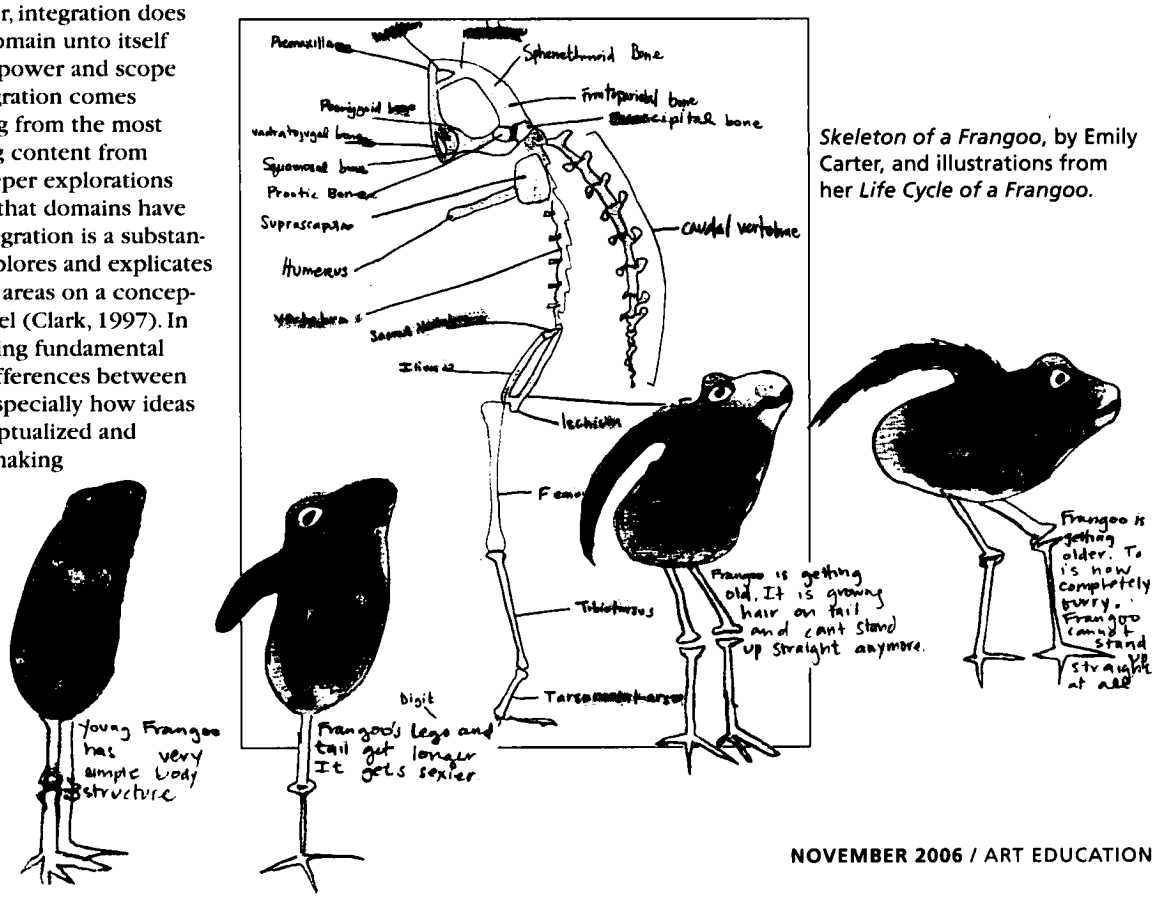
An Example Project: The Life and Times of Supernatural Hybrids

Here is an example of a series of art lessons in the form of a project that illustrates the principles of *substantive art integration.* In this series of exercises, image making and storytelling provide contexts and catalysts for explorations of fundamental concepts from art, science, mythology, and popular visual culture. Although the project is made up of simple lessons, it becomes substantive and exemplary through the extensions and connections made in the project (the way simple ideas are mined for connections and extended beyond surface meaning to the concepts that underlie them) and the way these concepts are discovered and made explicit through the activities.

This project is most appropriate for upper elementary and middle school. It was developed over time in our preservice course at San Francisco State University and serves as a model for arts integration in our teacher preparation program.

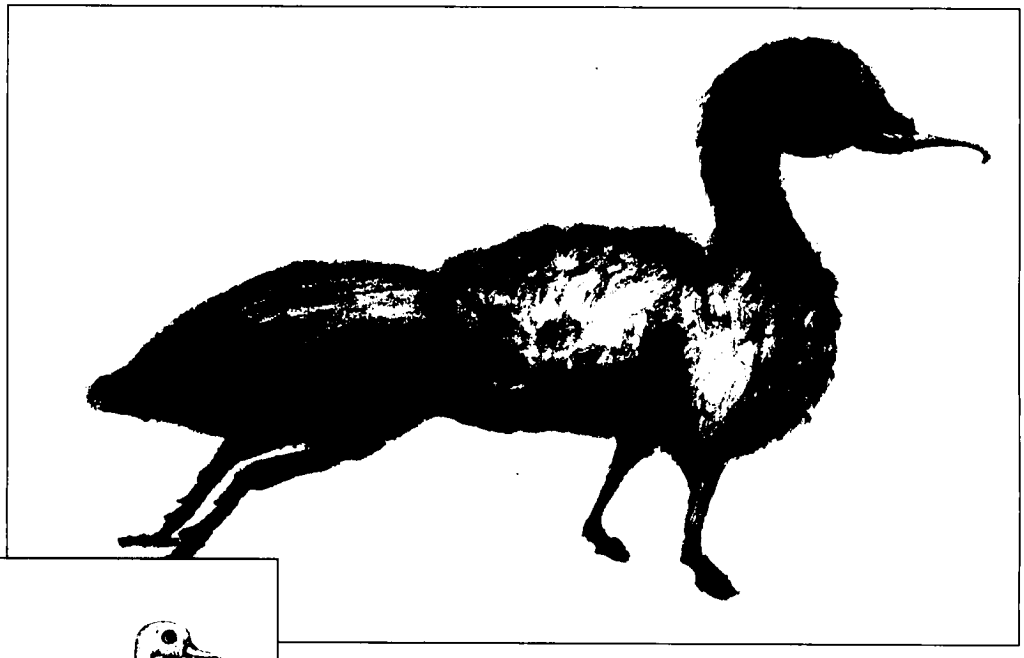
Lesson One: Creating Hybrid Creatures. In the first lesson, students invent synthetic hybrid animals through a highly structured process. It begins with a drawing lesson in which students draw three "real" animals in pastel chalks on three large pieces of paper by first drafting the geometric shapes that lie beneath the animals' complex forms and then drawing the organic lines and details over the geometric structures. In sketching the animals, students hone their observation and rendering skills. The models used for drawing are natural history illustrations from 19th-century Europe (see collections of these illustrations in Harter, 1979). These images work well because they are clear renderings of the anatomical characteristics of animals. Students are instructed to choose three animals from three different species. Through brainstorming species and discussing how animals are categorized, students learn about taxonomy in biology while gathering a breadth of possibilities for their animals.

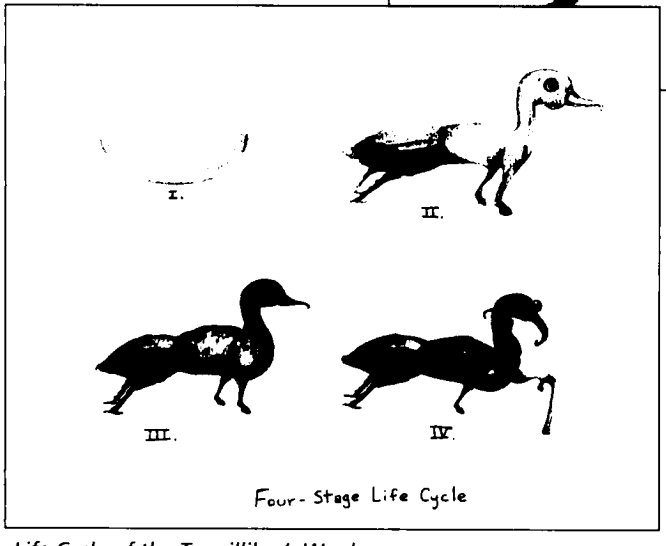
After the drawings are completed, students look at pictures of mythological animals. Hybrids such as Ganesha (India), mermaids, griffins and fairies (Germany, England, France), Anubis, Sphinx and Ptah (Ancient Egypt), Dragons (China) and Naguales (Mexico) demonstrate that hybridized fantasy creatures are a tradition all over the world and show that



Skeleton of a Frangoo, by Emily Carter, and illustrations from her *Life Cycle of a Frangoo.*

Students come to view scientific illustration as a way of researching a subject through observation and interpretation.





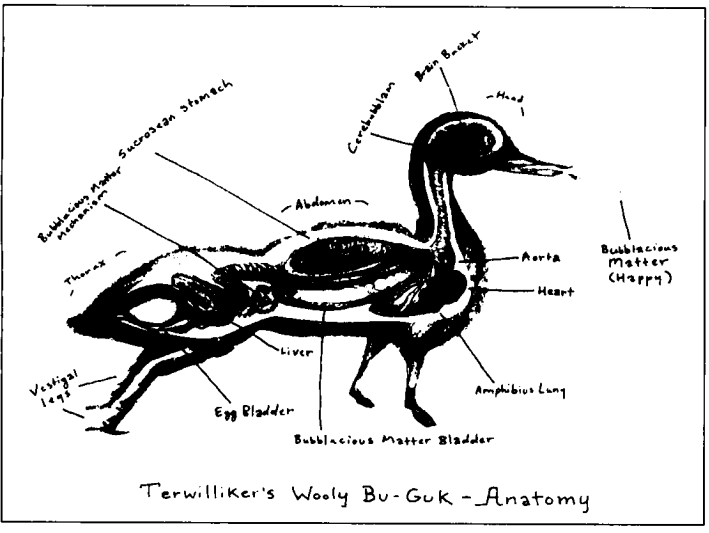
Life Cycle of the Terwilliker's Wooly Bu-Guk, by Gabriel Gamboa.

they often are embodiments for supernatural powers. Here the lesson connects to mythologies and spiritual traditions and also provides insight into creativity and creative process. The creative strategy of synthesis, a process of combining already existing "real" things to create new entities, is introduced in discussions of how these animals are created through joining parts of different animals. We find synthesis in nature when genetic combinations generate new organisms. In nature, combinatory possibilities are governed by natural laws and change is limited. Synthesis in human creativity, however, is not constrained by natural laws; while the human imagination begins with what it knows and often models its creations after what it has seen or experienced, it can break out from nature's restrictions to create something really new. With this in mind, students cut their animals into parts and rearrange these components to create new hybrids.

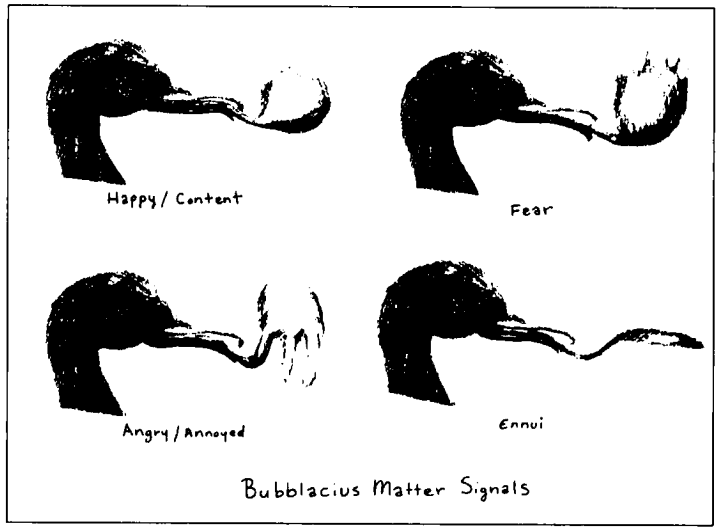
Examining contemporary hybrid animals in Western art and visual culture that embody powers and powerful concepts updates the tradition of hybrid animals as symbols of powers. Specific examples from contemporary art are Thomas Grunfeld's hybrid transgenic creatures composed of parts from taxidermied animals in the *Misfit* Series (1994) and the computer-collaged animals in *Hybrids* (2000) by Eva Sutton. The concepts embodied in these creatures are the power and menace of biotechnology, especially genetic engineering. In popular culture we find similar powers and anxieties personified in robots, cyborgs and other synthesized creatures from science fiction, comic books and video games. This theme of hybridized creatures is timeless and robust. Because they have both ancient roots and are part of contemporary popular global culture, hybrid animals have a lot of resonance in signifying current forces and ideas today and therefore can serve as mediums for student exploration and expression about issues in their lives.

Lesson Two: 'Researching' the Animal. This lesson further integrates science and art by exploring the ways imagery is used in research and how visual images function as language. In it, students imaginatively 'research' and construct their animals' lives as they apply the style, aesthetics, and graphic devices of scientific illustration to create, explore and tell about their creatures.

The lesson begins with a presentation of natural history illustrations of animals dating from the Age of Enlightenment to the present. These illustrations come in a variety of forms and have different orientations and focuses. Many depict animals in their habitats; many display the

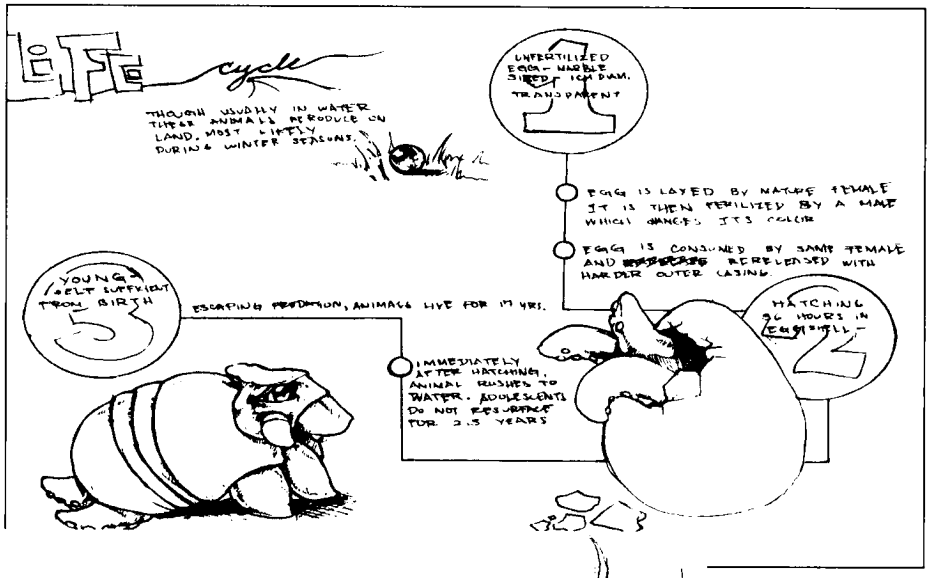


Terwilliker's Wooly Bu-Guk - Anatomy



Bubblacius Matter Signals

anatomy of animals; and others illustrate what animals do, what they eat, and how they live. Rendered realistically and in great detail, these illustrations are essentially visual representations of information. Their ability to explicate is enhanced through the use of visual devices such as magnification bubbles, cutaways and codes (numbers and letters). In studying the visual language of these images, students come to see how imagery can convey information clearly and explicitly. The overt coding in these pictures also provides an introduction to the ways meaning is conveyed in all kinds of visual signs and symbols in art and visual culture. In noticing the illustration's aesthetic qualities and the interpretive style of the illustrator, students can see how these works border on art. Above all, students come to view scientific illustration as a way of researching a subject through observation and interpretation. Here students see how image-making functions as a medium of research. With all of this in mind, students draw "portraits" of their hybrid animals in the expressive yet detailed style of John James Audubon.




Hybrid, by Patrick Santiago.

Students give their animals mock Latin names inspired by Linnaeus' system of binomial nomenclature, which names organisms by genus and species. This highlights the importance of categorization and naming in scientific research and connects the animals' identities to their genetic heritage. They then imaginatively dissect their animals, drawing the animals' anatomies—skeletal structures and/or internal organs. They isolate anatomical parts and characteristics that are distinct to their animals and draw these charac-

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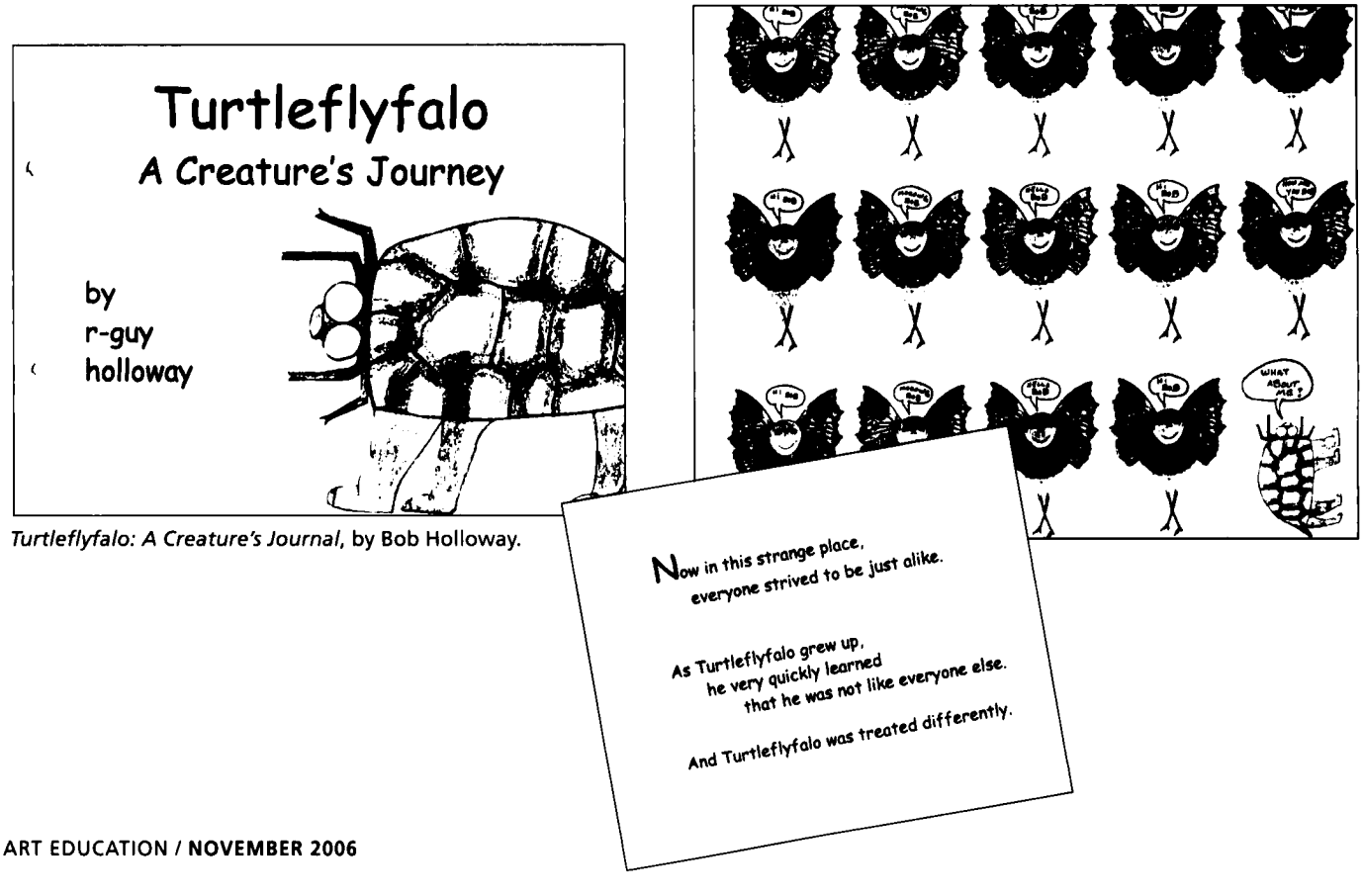
teristics as part of a full animal drawing or in magnification bubbles. After drawing five or six illustrations, students have fully developed their animal's physical characteristics. They then draw two or three drawings to illustrate the lives of their animals—where they live, their activities, habits and diets. As these are hybrid creatures, they are free from natural constraints or realism and students can be as fanciful as they please.

Lesson Three: Stories and Myths. Prepared with all the information they have developed, students write stories about their animals and illustrate them through drawings and collage. A photocopy machine is a helpful tool in this lesson. Students photocopy their first picture, the Audubon-style illustration, many times and in many sizes. Having multiple images of the animals frees the artist to try many iterations and possibilities and to make groups of his or her animal. It also encourages students to trade animals. When animals from one student pop up in another student's story, the project becomes a social experience —a collaboration.

Graphic novels, comic books, and illustrated children's books can provide models for these stories. Creation myths, allegories, science fiction and fables can offer motifs and story lines. The stories can evolve in any way; teachers can guide the development of stories according to their curricular requirements in academic courses or they can leave the subject matter open. Taking clues from contemporary art, the stories can focus on current social, political, cultural, and environmental issues. They can also include found images from popular culture and address student life today. They can incorporate collage and use postmodern art strategies such as appropriation, bricolage (constructing images from whatever is at hand), synthesis and juxtaposition to create irony and humor. These stories and illustrations can then be bound into books. Book-making could be lesson number four.

Lesson Four or Five: Product Lines and Three-Dimensional Animals. Following examples from popular culture, students can develop product lines to go along with their stories. Products can include souvenirs—stuffed animals, toys, tools, packages, foods and clothing. Students can visit the local mall to research product lines and souvenirs.



Turtleflyfalo: A Creature's Journal, by Bob Holloway.

They can make their products from any material—papier-mâché, ceramic or air-dry clay, or cloth and stuffing.

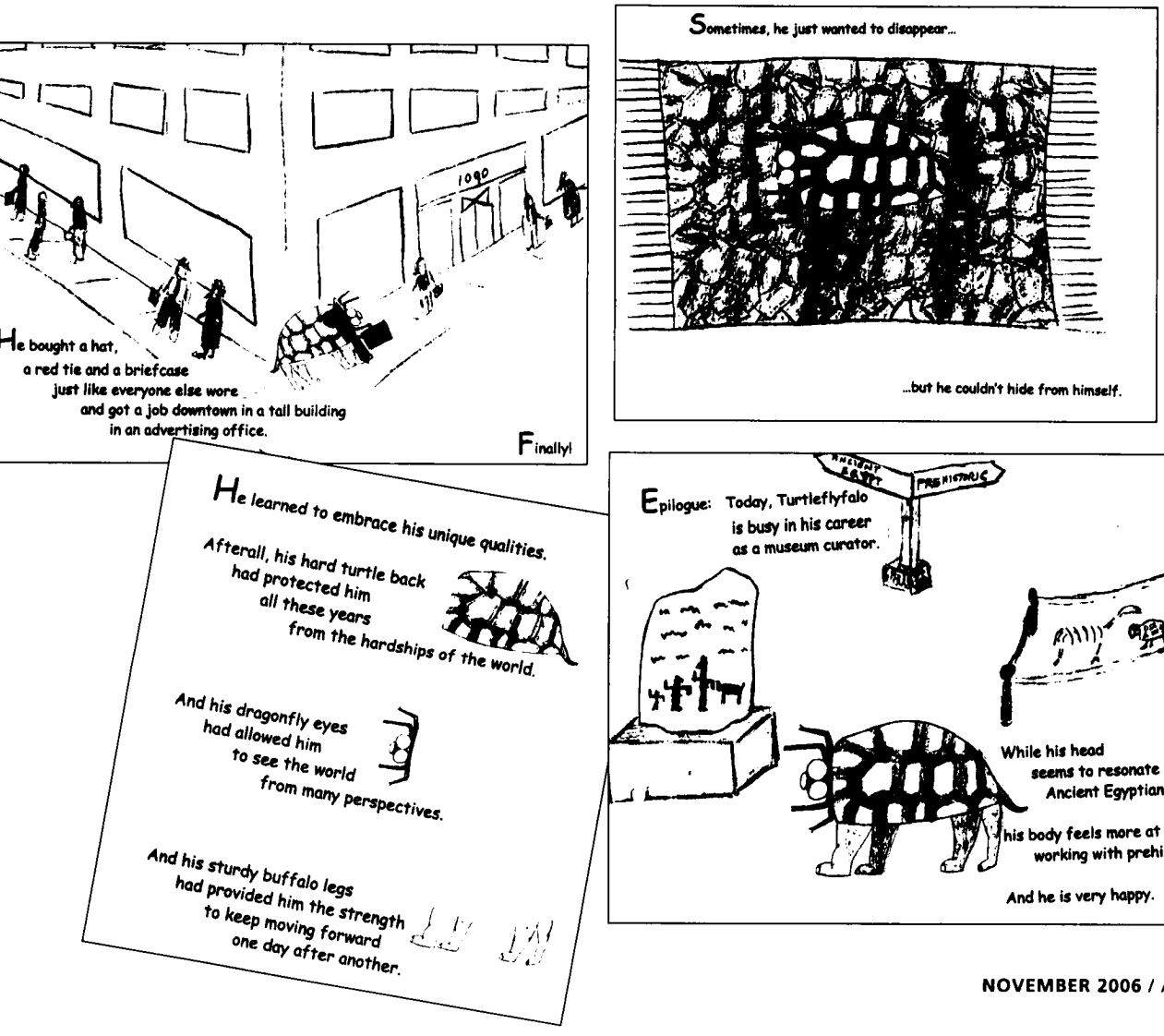
In this culminating lesson, students explore the personality and anatomy of their animal further and make it more "real."Transforming an animal drawing into a three dimensional object requires a great deal of problem-solving in building a viable structure—thus developing cognitive as well as physical skills. Students also have experience in using lots of materials to create textures, coloration and patterns on the skin of their creatures.This lesson also addresses commodification and commercialization of stories, myths and popular characters in contemporary culture.

From here the project can progress into other lessons that integrate science and contemporary art. One suggestion is to build natural history-style dioramas for a Museum of Unnatural History that display the three-dimensional hybrid animals interacting in their habitats.This lesson introduces the art of natural history dioramas and the genre of installation art practiced by artists such as Mark Dion and Fred Wilson who curate and display objects in cabinets, vitrines and other museum-style displays to construct narratives and make comments on museum display and cultural biases (Wilson) or research, science and ecology (Dion).

Assessment of the Project

This series of lessons meets the criteria set by the basic tenets of an exemplary, substantive integrated art education because it:

1. Integrates art with other areas of inquiry and thought (connecting art, science, mythology and storytelling) in substantive ways.
2. Is in sync with constructivist theories of learning and understanding. It calls for active participation and construction of knowledge through progressive structured steps. It promotes learning through connections and extensions of ideas. It enhances learning through imaginative play, projection and application.
3. Connects image-making and artmaking to research. It focuses on knowledge construction through reinterpretation of information. It uses creative process in constructing knowledge.
4. Connects to contemporary art practice, processes and ideas such as bricolage, irony and humor.
5. Connects to art history and global art traditions under a unifying theme (of hybridization) and links them to students' lives.
6. Builds a variety of artmaking skills.
7. It lends itself to reflection on critical ideas in art and related fields—making concepts and relationships explicit.



Conclusion: Substantive Integration in Practice

Exemplary curricula are critical to an exemplary substantive integrated art education. Developing and implementing curricula requires broad and deep knowledge of art practice, learning and educational theory, visual culture and art history but also some understanding of the basic principles and practices in other areas of inquiry to which art is connected. Most importantly, it requires imaginative thinking and research in uncovering and making explicit the concepts beneath images and ideas (thinking deeply), in connecting them to related ideas (thinking broadly), and in developing imaginative and playful exercises that allow for students to discover and connect ideas themselves through research and play.

Contemporary theory and structures in art and education provide us with the groundwork and a map for this. The brilliance of these foundational theories and structures is in their call for curricula that are structured and thoughtful but also flexible, evolving and open to new ideas and processes. The curriculum presented here is just one example. It is a work in progress; each semester it evolves into a new creature. It performs as not only a model but also its subject matter serves as a metaphor for substantive art integration. Exemplary art education is, after all, a grand hybrid, a synthesis of many things.

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