VISUAL THINKING STRATEGIES: WHAT ARTISTS AND SCIENTISTS CAN LEARN FROM EACH OTHER

PRESENTED BY
THE MUSEUM OF THE SOUTHWEST
WHAT DID WE JUST DO?

We all had ample opportunity to point out what we saw.
We provided evidence to explain our comments.

We examined and expressed our opinions about it.

We noticed that every comment contributed to the group process of gathering clues for multiple meanings.

We knew that our thoughts were heard, understood, and valued.
Each group has been provided a packet of resources.

Open your packet and examine the resources.

Ask yourselves:

| What is going on in this picture? | What clues tell you that? | What more can we find? |
WHAT IS VTS (VISUAL THINKING STRATEGIES)?

- Visual Thinking Strategies (VTS) uses art to teach thinking, communication skills, and visual literacy. Growth is stimulated by three things: looking at art of increasing complexity, responding to developmentally-based questions, and participating in group discussions that are carefully facilitated by teachers.

- VTS contributes to cognitive growth by observing, speculating, and reasoning on the basis of evidence.

- VTS was initially developed at the Museum of Modern Art by Philip Yenawine and his colleagues and was focused on enhancing aesthetic judgments of youth.

- Now there is an increasing trend in applying this method to other disciplines and is particularly successful in the sciences where keen observational processes are critical in developing and then testing hypotheses.
THE SCIENTIFIC METHOD

Accept or reject Hypothesis
Iterate until hypothesis is achieved

Observe
Identify problems, trends, business goals

Hypothesis
Measurable
Tentative

Test & Collect Data
RCT
A/B Tests

Analyze results against Dependent Variable
Statistically Sound?

THE CREATIVE PROBLEM-SOLVING PROCESS

Initial inspiration or prompt (assignment, exhibit call...)

Brainstorming (thinking of possible ideas)

Reflect Question
Ask what’s next

Feedback
-self reflection -discussion w/ others

Sketching & planning

Practicing & experimenting

Start work on artwork

Alter / refine

Display

Iterate until hypothesis is achieved
HOW ARE ARTISTS AND SCIENTISTS ALIKE?

- Both scientists and artists are dedicated to asking the big questions
- Both search deeply, and often down many paths for these answers.
- Both the scientist's laboratory and the artist's studio are places for open-ended inquiry
- Both scientists and artists build upon and draw from a rich history of work that has come before them
ARTISTS INSPIRED BY SCIENCE

- Jen Stark is a contemporary artist whose majority of work involves creating incredible paper sculptures. Her work draws inspiration from microscopic patterns in nature, wormholes, and sliced anatomy.
Susan Aldworth, working side by side with neuroscientists, creates work dealing with those exact topics; her most recent works include prints made directly from human brain tissue.
ARTISTS INSPIRED BY SCIENCE

- George Seurat was focused on the science of color, specifically Divisionism (or chromoluminarism). He extensively studied the science of color—in particular how to achieve maximum luminosity—and required the viewer to mix colors optically rather than mixing pigments on the canvas.
Nancy Macko’s *The Fragile Bee* exhibition showcases cross-curricular, multi-media works that use the relationship between art, technology, science, evolution, and ecology to explore the world of bees.
WHAT IS THE TEACHER’S ROLE IN VTS?

- Teachers are the facilitators of VTS, not the end-all-source of information or opinion.
- Teachers help students to debate possibilities and encourage students to examine, articulate, listen and reflect.
- Listen carefully to catch all a person says and try to get their meaning.
  - Can you show us what you’re seeing?
  - Can you add more words to help us understand?
- Point to observations as you rephrase the idea
- Paraphrase each comment, emphasizing that interpretations are possibilities rather than fact.
- Link related comments whether people agree, disagree, or build on one another’s ideas
- Remain neutral
THE TEACHER AS CURATOR

- Just as curators carefully select artworks for exhibitions based on themes and audience experience and engagement, teachers using VTS select primary sources, images, and datasets to achieve a particular learning objective or goal.

- Select a range of images and sources
  - Drawings, paintings, sculptures, photographs
  - Data charts, maps
  - Short text, fiction or non fiction, journal entries, etc.
  - Physical objects
The Museum of the Southwest

• Founded in 1965, opened in 1966 and in the historic Turner Mansion since 1968, the Museum of the Southwest has spent over fifty years serving the Midland and West Texas communities by producing exhibitions, programs and events about science, art, astronomy, archaeology, history and culture.

• Our campus consists of the Turner Memorial Art Museum, which is also a historic home, the Fredda Turner Durham Children’s Museum, the Blakemore Planetarium and a Sculpture Garden.
Our Philosophy at the Museum of the Southwest
HOW WILL YOU USE VTS IN YOUR CLASSROOM

- Use the project planning worksheet to plan a VTS strategy for your classroom.
- Share with others and get feedback
What we offer

• Tours
• 4th grade Tours
• Outreach
  • MSW comes to you
  • STEAM nights
  • Volunteers
• Teach On! Professional Development for Educators
• Inservices
• Teacher Cohort
Our Staff

• Melissa Rowland- Education Director
  • mrowalnd@museumsw.org

• Valerie Rodriguez- Director, Blakemore Planetarium
  • vrodriguez@museumsw.org

• Annelorre Robertson- Curator of Exhibitions and Collections
  • arobertson@museumsw.org
WHAT IS THE PORTAL?

Teachers who are members of the Museum of the Southwest get exclusive access to lesson plans, activities, and resources. To access these resources, please click on the link to the right and sign up. When your membership has been confirmed you will have access to our lesson plans and resources.

Information about our opportunities for all teachers, students, and schools is listed in the grey column below.