



Visual Understanding in Education  
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## **Selected Directory of Studies**

**Principal Researcher: Abigail Housen    Research Associate: Karin DeSantis**

### **Institute of Contemporary Art Boston Audience Pilot Study** **Spring 1984**

Treatment:     NA

Assessment tools:     Aesthetic Development Interviews (ADIs), demographic questionnaires, attitudinal questionnaires

Subjects:     36 randomly selected adult gallery visitors     Total Subjects: 36

Findings:

A combination of three types of measurement tools allowed a sharper picture of audience. The ICA attracts an audience highly focused at particular stages. The majority of viewers at these stages would not use more structured and traditional educational offerings, preferring individual exploration.

### **Bard College/Red Hook School District Arts in Education Study** **Spring 1988-Spring 1991**

Treatment:     Pre-visit slide presentation and teacher packets; museum visits with hands-on art project; follow-up activities; PTA presentations; teacher workshops; artist residencies; annual arts celebration

Assessment tools:     Biannual Aesthetic Development Interviews, questionnaires, content questions

Subjects:     Experimental:  
                  20 2nd-4th grade students  
                  20 2nd-4th grade students  
                  Control:  
                  20 2nd-4th grade students  
                  20 2nd-4th grade students

Total Subjects: 120

Findings:

The theoretical model and measure - originally derived from an older sample - are robust and inclusive for elementary age children. The model measures microchanges in aesthetic development. There were statistically significant differences in aesthetic stage scores between experimentals and controls. The experimentals gain in their ability to engage in longer dialogues about art using more sophisticated vocabulary, and to view art from many different perspectives. Stage inappropriate art concepts (e.g. perspective) don't stick. An incubation period is required to assimilate information. Possible developmental ceilings exist.

Project Director: Catherine Egenberger

**Museum of Modern Art NY School Program Evaluation Study Year I**  
**1988-1989**

Treatment: 5-part school program: MoMA lecturer conference with classroom teacher; in-classroom presentation by MoMA lecturer; museum visit led by museum lecturer; follow-up in-classroom presentation by MoMA lecturer; participation by classroom teacher in 4 Teacher Training Workshops

Assessment tools: Pre and post Aesthetic Development Interviews, questionnaires, teacher debriefings, teacher journals, visual literacy questions

Subjects: 72 teachers  
11 MoMA staff  
71 6th grade students  
83 11th grade students  
20 MoMA Saturday Classes students      Total Subjects: 257

Findings:

The treatment caused little or no growth in aesthetic stage for most groups. Grasp of visual literacy concepts varies by aesthetic stage. Most participants, both students and teachers, are beginner viewers. The transmission of aesthetic ideas is affected by the relative stages of teachers, lecturers and students. The higher intensity programs in which teachers present all lessons themselves, with the aid of museum staff, are more likely to produce measurable impact.

Site Coordinator: Nancy Lee Miller

**Museum of Modern Art NY School Program Evaluation Study Year II**  
**1989-1990**

Treatment: School program as described in Yr. I; mentoring; participation by classroom teacher in 8 teacher-training workshops

Assessment tools: Pre and post treatment Aesthetic Development Interviews, questionnaires, teacher journals

Subjects: 45 teachers  
45 6th grade students  
25 high school students  
10 follow-up Yr. I  
Total subjects: 125

Findings: The experimentals exhibited significant stage change when compared to controls. Students with mentored teachers experienced greater stage change than other experimentals. Treatment caused no shift in use of visual literacy vocabulary and concepts.

Site Coordinator: Nancy Lee Miller

**Museum of Fine Arts Boston Classical Curriculum Study**  
**1989-1990**

Treatment: Use of pilot curricula based on MFA's collection of Greek, Etruscan, and Roman art

Assessment tools: Aesthetic Development Interviews, questionnaires, teacher debriefings, teacher self-evaluation reports

Subjects: 19 teachers

Findings: Teachers of varying aesthetic stages have different needs, attitudes, and approaches to curricula. Beginner viewer and more experienced viewer teachers handled material and project very differently: different preparation of lessons, design and choice of topics, and museum activities. Aesthetic stage provides a basis for designing materials for teachers.

Site Coordinator: Margaret Burchenal

**Museum of Fine Arts Boston Asian Galleries Brochure Study**  
**Spring 1990**

Treatment: Use/non-use of gallery brochure

Assessment tools: Aesthetic Development Interviews, questionnaires, observations

Subjects: 59 randomly-selected adult gallery visitors  
17 invited subjects  
Total subjects: 76

**Findings:**

The brochure was not used by gallery visitors. The exterior of the brochure was designed for one stage while interior for another. While subjects appear to represent a homogeneous group of experienced museumgoers (frequency & length of visits, use of educational materials) because of different stages they have divergent learning needs: structured vs. unstructured reading materials.

Site Coordinator: Barbara Martin

**Museum of Modern Art New York Gallery Talks Study**  
**Summer 1991**

Treatment: Participation in MoMA gallery talks:  
American Art Since 1945; White Works; Pollock; Art Now;  
Abstraction: Picasso, Matisse, Rothko, Pollock

Assessment tools: Aesthetic Development Interviews, questionnaires, gallery talk recall questions

Subjects: 22 adult participants in gallery talks                      Total Subjects: 22

**Findings:**

Participants heard lectures and saw images through filter of their stage. Participant recall of gallery talk content correlated more with stage than any other variable.

Site Coordinator: Nancy Lee Miller

**Museum of Modern Art NY Pilot Visual Thinking Curriculum Study**  
**Years I-III**  
**Fall 1991-Spring 1994**

Treatment: Pilot Visual Thinking Curriculum Version I

Assessment tools: Biannual Aesthetic Development Interviews, questionnaires, teacher debriefings, teacher logs, teacher reports, mentor reports, writing exercises

Subjects: Experimental:  
31 4th-5th grade  
33 4th-6th grade  
Control:  
45 4th grade  
28 5th grade  
27 6th grade    Total Subjects: 164

**Findings:**

The analysis of the pre and post ADIS showed that there was a change in the stage distribution of experimentals, no change in controls. 41% of experimentals gain. There was a significant difference in the lengths of pre and post ADIs of

experimental and control groups. Experimental subjects show an increase in speculative thinking, questioning comments, justifications, and formal remarks. Participation led to a positive change in attitudes to art. Teachers, administrators and parents report transfer of critical and creative thinking among students. School principals also report school change, which they attribute to the program.

Site Coordinator: Nancy Lee Miller (Yr. I)

**Museum of Modern Art NY Art Education for the Blind Pilot Study**  
**Spring 1993**

Treatment: Group 1: no additional aids/treatment before tour (Control)  
Group 2: only verbal description before the tour  
Group 3: raised line and verbal description before gallery tour

Assessment: Aesthetic Development Interviews, questionnaires, gallery talk recall questions

Subjects: 44 legally blind adults with varying degrees of sightedness      Total Subjects: 44

Findings: The coding method and manual are robust with a 3-D object and legally blind subjects. Subjects' stage range is consistent with other studies (89% beginner viewers). Higher stages were visually impaired or born blind with degree of sightedness combined with exposure to art viewing. Partially sighted beginner viewers showed same needs and interests as sighted beginner viewers.

Site Coordinators: Sarah Stephenson, Francesca Rosenberg

**Byron MN Methods for Museum Education Study**  
**Fall 1993-Spring 1998**

Treatment: Visual Thinking Strategies, artist residencies

Assessment tools: Biannual Aesthetic Development Interviews, questionnaires, content questions, material objects interviews (MOIs), writing samples, teacher logs, pilot teacher assessment grid

Subjects: Experimental:  
25 2nd-4th grade  
25 4th-6th grade  
12 Teachers  
Control:  
25 2nd-4th grade  
25 4th-6th grade  
Total Subjects: 112

Findings:

Experimental students grew aesthetically more than the controls. There was a floor effect among experimentals in the early years of the program: students who were 'overdue' for change - students in a beginning stage and the older grade - gained the most. Primary among the findings is that by the end of the program the experimental students were talking about art in ways comparable to most adult museum visitors. This means that students in the program, even at average ages eleven and thirteen, were thinking about art in ways that are typical of much older people who have self-selected to attend museums. The program also supported the growth of critical thinking skills, which transferred to non-art objects.

Project Coordinator: Catherine Egenberger

**Visual Thinking Strategies Pilot Study St. Petersburg Russia**  
**Spring 1994**

Treatment: Visual Thinking Strategies Starter Lessons

Assessment tools: Pre and post Aesthetic Development Interviews, questionnaires and teacher debriefings

Subjects: 60 4th grade students Total Subjects: 60

Findings:

As expected in a treatment of short duration, the stage scores derived from pre-test and post-test ADIs showed no statistically significant difference. The subjects coded as beginner viewers with the kinds of thinking exhibited typical of beginner viewers. These findings reveal that the method and coding manual are robust in another culture.

Site Coordinator: Liubov Vaniushkina, St. Petersburg Pedagogical University

**Visual Thinking Strategies Study St. Petersburg Russia**  
**1994-1996**

**1994-95**

Treatment: Visual Thinking Curriculum, Year I

Assessment tools: Bi-annual Aesthetic Development Interviews, questionnaires, teacher debriefings

Subjects: Experimental:  
60 4th grade students  
Control:  
30 4th grade students Total Subjects: 90

**Findings:**

In the post ADIs of the experimental group there is a trend towards stage gain.

**Site Coordinator:** Liubov Vaniushkina, St. Petersburg Pedagogical University

**1995-96**

**Treatment A:** Visual Thinking Strategies, Year II

**Assessment:** Bi-annual Aesthetic Development Interviews, questionnaires, teacher logs, teacher debriefings; pilot phase of teacher assessment tool

**Subjects:** Experimental:  
30 5th grade students  
Control:  
30 5th grade students                      **Total Subjects: 60**

**Findings:**

Due to problems with the data collection, the data for this study is flawed. However, in the post ADIs of experimental students we find evidence of the emergence of viewing behaviors fostered by the VTS (grounding and speculating) together with evidence of an increase in comments typical of Stage II viewers, such as greater awareness of formal issues, concern with realism, and consideration of the artists' process and intent.

**Site Coordinators:** Liubov Vaniushkina, St. Petersburg Pedagogical University  
Natasha Yevleva, State Russian Museum

**Treatment B:** Visual Thinking Strategies, Year I

**Assessment tools:** Bi-annual ADIs, questionnaires and teacher debriefing,

**Subjects:** Experimental:  
30 1st grade students  
Control:  
30 1st grade students                      **Total Subjects: 60**

**Findings:**

Due to problems with the data collection, the data for this study is flawed.

**Bronx Museum of the Arts Cross-Cultural Connections Study**

**1995-96**

**Treatment:** Visual Thinking Strategies Starter Lessons: Cross-Cultural Connections

**Assessment tools:** Pre and post Aesthetic Development Interviews, questionnaires, teacher debriefings

**Subjects:** Experimental:  
45 10th grade students                      **Total Subjects: 45**

Findings:

Program found effective at an arts academy in a large urban high school with a high percentage of at-risk students. Due to the uniqueness of the program no control data was collected. Analysis of ADIs revealed that students coded as beginner viewers, a finding consistent with previous research in the United States and Eastern Europe. Comparison of pre and post-study interviews showed a statistically significant change in student aesthetic stage over the course of the three month implementation of the program. Comparison also showed a phenomenon, which has been noted at other sites — the students who scored lowest at the beginning of the study showed the most change.

Site Coordinator: Jerri Allyn

**Kazakhstan Pilot Project**  
**Winter 1995-Spring 1996**

Treatment: Visual Thinking Strategies Starter Lessons

Assessment tools: Aesthetic Development Interviews, questionnaires, observations, teacher logs, teacher debriefings

Subjects: 18 experimental students  
22 control students  
21 teachers  
Total subjects: 52

Findings:

Stage scores from pre-test ADIs showed no statistically significant difference between experimental and control stage mean scores. As expected in a study over this short time period, post-test ADIs also showed no significant difference between experimental and control mean scores. Both experimental and control scores are comparable to scores of American and Russian students of similar ages and exposure; the interviews were coded as beginner viewers. The kinds of thinking exhibited were typical of beginner viewers. The mean stage score for teachers was similar to the mean for teachers in previous studies in the U.S. and Russia. Stage gain in teachers was found in pre-test/post-test comparisons.

Site Coordinators: Inna Saprova, Gulya Suleeva

**Museum of Fine Arts Boston Thinking through Art Pilot Program Study**  
**Fall 96-Spring 97**

Treatment: Visual Thinking Strategies Starter Lessons

Assessment tools: Biannual Aesthetic Development Interviews, questionnaires, content questions, Material Object interviews, writing samples, teacher logs; videotapes, observations

Subjects: 30 Experimental 5th grade students  
30 Control 5th grade students Total subjects: 60

Findings:

The program was effective with students across a wide range of learning abilities. Participating classes included those designated as advanced work, inclusion, self-contained special needs and bilingual in addition to non-designated classrooms. Evidence of students applying skills developed in the VTS lessons was found in ADIs and writing assignments. These showed increases in observation and communication skills.

Site Coordinators: Margaret Burchenal, Diane Jaquith

**Museum of Fine Arts Boston Thinking through Art Portfolio Case Study**  
**Fall 97-Spring 98**

Treatment: Visual Thinking Strategies Starter Lessons

Assessment tools: Writing samples, videotapes

Subjects: 6 teachers  
18 students Total subjects: 24

Findings:

The teachers who collected student writing samples and videotapes of classroom VTS discussions could, with support of the researchers, document and assess specific skills and demonstrate their transfer from one learning situation to another.

Site Coordinator: Margaret Burchenal

**Museum of Fine Arts Boston Teacher Interview Case Study**  
**Winter-Spring 2000**

Treatment: Visual Thinking Strategies Starter Lessons

Assessment tools: In-depth pre and post teacher interviews, Aesthetic Development Interviews, observations (conducted by teachers of their students and by research staff)

Subjects: 5 teachers

Findings:

Participating teachers were able to record and reflect on the changes in the thinking of individual students and of the larger group, as well as gain a better understanding of the effect of the VTS program on their own teaching practice.

Site Coordinators: Margaret Burchenal, Laurel Bernini

**Eastern European and Central Asian Regional Program**

**Soros Foundations of Estonia, Kazakhstan, Kyrgyzstan, Lithuania, Macedonia, and Ukraine  
Spring 1997-Spring 2000**

Treatment: Visual Thinking Strategies Starter Lessons; Visual Thinking Strategies Curriculum

Assessment tools: Pre and post Aesthetic Development Interviews and questionnaires;  
teacher debriefings; observations; teacher logs

Subjects: At each site:  
30 Experimental 1st-3rd grade students  
30 Control 1st-3rd grade students

Findings: Data collected in Lithuania found the predicted sequence and rate of growth.  
The experimental subjects grew significantly more than controls. Due to budget  
cuts the post data was not collected at the other sites.

Site Coordinators: Teams coordinated by local Soros Foundations.

**San Antonio, Texas Independent School District**

**Aesthetic Development and Critical and Creative Thinking Skills Study  
Winter 2000 – Spring 2002**

Treatment: Visual Thinking Strategies Curriculum

Assessment tools: Biannual Aesthetic Development Interviews and questionnaires;  
material object interviews, writing samples, teacher debriefings;  
observations; videotapes

Subjects: 25 Experimental 3rd-5th grade students  
25 Control 3rd-5th grade students

Findings: The program was highly effective in a school with a large percentage of at risk  
and bilingual students. Experimental subjects grew in their aesthetic and critical  
and creative thinking significantly more than the controls.

Site coordinator: Penelope Speier

**Museum of Fine Arts Boston**

**Current Massachusetts Learning Standards and Curriculum Frameworks and the Thinking  
through Art Program Study  
Fall 2001-Fall 2003**

Assessment tool: Current Massachusetts Learning Standards and Visual Thinking  
Strategies Classroom Observation Forms

**Subjects:** 36 Boston-area Thinking through Art teachers

**Findings:** Using a VUE-designed rubric, as well as notes and observations, teachers were able to document the ways in which TTA supports current learning standards as defined in the Massachusetts English Language Arts Curriculum Framework and in the Massachusetts Arts Curriculum Framework.

**Site coordinator:** Erica Wall