

ARTFUL CLINICAL OBSERVATION

Training the Eye and Mind: Visual Thinking Strategies to Improve Communication and Clinical Skills

Curriculum for Third-Year Medical Students in Pediatrics

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Overview

This curriculum document delineates a program designed to teach Visual Thinking Strategies (VTS) to third-year medical students during their required Pediatrics Clerkship. VTS has been shown to improve abilities at observation, improve ability to describe those observations, and improve the ability to communicate evidence for conclusions based on those observations. As such, VTS has the potential to have a significant impact on the bedside diagnostic skills, ability to react in an empathetic manner, and improve patient-physician communication skills for doctors-in-training. The vehicle by which VTS will be taught will be through visual media, including fine art, and instructional design will employ both fine arts and medical faculty.

I. Problem Identification and General Needs Assessment

- The “problem” this curriculum seeks to address is the development of the observational skills necessary for a physician to practice medicine. Medicine is much more than simply memorizing details of disease and treatment; rather physicians should be empathetic and attuned to visual cues from their patients that have impacts on diagnosis,

communication, and the doctor-patient relationship. VTS is an approach to the development of observational skills.

- General Needs Assessment. A greater number of medical schools across the country are employing art as a means to teach visual diagnosis skills and observational skills. The majority of these programs are electives (rather than required courses), and many programs also include an experience at a local art museum. We have not found any programs that are mandatory for all medical students to take during medical school, nor have we found programs that pair fine arts faculty with medical faculty in teaching these programs in a joint fashion.
- Task Analysis. The “ideal” approach to the above-stated problem would be to use visual images to teach the acquisition of Visual Thinking Strategies. To be successful, the experience must be augmented with appropriate discussion and debriefing of visual experiences, and would ideally be led both by fine arts faculty, who have greater experience in observational skills and VTS, as well as medical faculty, who have legitimacy with medical students and can link the learned skills to the bedside.

II. Needs Assessment of Targeted Learners

- Targeted Learners. This program will have a primary focus on third year medical students rotating on the Pediatrics Clerkship, which is an eight-week required rotation offered throughout the year. The rotation accepts up to 32 students per eight-week block, with six blocks over the course of the academic year (where the academic year for the third year of medical school is roughly May 1 through April 30). The third year of medical school is the first dedicated clinical year of medical school (years 1 and 2 have a predominant focus on biomedical science and are taught in the classroom).
- Needs Assessment. Visual Thinking Strategies has a natural home in Pediatrics, as the power of observation is most acute in this field: young children often cannot talk or articulate what they are feeling or what symptoms they are experiencing, meaning a Pediatric practitioner must be able to elicit significant aspects of their illness through observation. Moreover, the social determinants of health also have a significant impact on the well-being of children, and it is incumbent on Pediatric providers to be attuned and aware of the social setting in which children are being raised. Observation is critical to this awareness.

Prior to the Pediatrics clerkship, there are no formal structured sessions on VTS or observational skills utilizing art as the vehicle to acquire these skills. Students do complete a longitudinal “Applied Clinical Skills” course during years 1 and 2 that focuses on learning how to interact with patients through interviews and clinical histories, along with an introduction to physical examination and clinical diagnosis.

III. Goals and Objectives

- Programmatic Goal. By the end of this curriculum, third year medical students will learn the concepts of VTS and be able to translate those observational skills to the bedside in their interactions with patients. The mechanism by which this goal will be achieved will be through observation and discussion of art with both fine arts and medical faculty.

- Session Objectives. By the end of the session, third year medical students will:
 - 1)Learn the VTS method of visual analysis
 - 2)Make detailed observations and improve visual analysis skills
 - 3)Communicate observations effectively
 - 4)Provide evidence and inferences for observations
 - 5)Identify how emotions and bias can affect observations and interpretations
 - 6)Hone abilities to recognize, read, interpret, and empathize with patient emotions
 - 7)Apply new skills in a medical setting
- Learning Outcomes. Using the combined study of visual art works and clinical cases, third year medical students will:
 - 1)Learn visual art methods to enhance visual observation, description, and interpretation skills for a clinical setting
 - 2)Become more sensitive to and develop vocabulary to describe the nuances of the patient’s story, situation, and health
 - 3)Promote their own mindfulness in the clinical setting and in their lives

IV. Educational Strategies

- There are two learning theories that undergird this curriculum:
 - 1)Social-Cognitive Learning Theory. People learn by observing others; people acquire knowledge, skills, and attitudes through observation.
 - Albert Bandura: learners interact with their environment, processing what is seen, to enact behavior (“triadic dynamic relationship” between the learner, the environment, and the behavior).
 - Medical students will interact with each other and with faculty to solidify observational skills that they will then be able to employ in clinical scenarios.
 - 2)Humanist Learning Theory. Learning within this theory takes into account the affective and cognitive dimensions and focuses on the potential for human growth.
 - Perceptions are centered on experience
 - Abraham Maslow’s “Hierarchy of Needs:” the pinnacle is self-actualization
 - VTS provides students with an experience on which to anchor their perceptions, in this case observational skills through art, which pushes them further towards self-actualization as a complete physician attuned to more than simply disease pathophysiology.
- Methods. The curriculum will follow the following structure:
 - 1)Introduction to VTS (1 hour).
 - Led by art and medical faculty, this will be an interactive session where students are introduced to VTS and have the opportunity to practice observing and analyzing visual images/art.

- Pretest: students will be asked to record their observations of a visual image/work of art.

2)Practicing VTS (1 hour).

- Students will split into groups and will tour the St. Louis Art Museum, stopping at specified works of art, with fine arts faculty and museum curators leading the discussions at each specified piece of art. Observational skills will be emphasized at each piece of art.

3)Solidifying Applicability to Medicine (1 hour).

- Students will return to a large-group setting, where medical faculty will display art depicting medical scenes (or alternatively medical images) with discussions focused on using VTS to interpret medically-relevant images.
- Posttest: students will be asked to record observations of a visual image/work of art with medical relevance. Number of observational comments recorded will be compared to the pretest. Feedback will be formative.

V. Implementation

- Resources.

1)Personnel. Fine arts faculty, medical faculty, and museum curators will be required for this curriculum to be carried out, with ideally 2-3 fine art and medical faculty available at each session.

2)Support. This program will require the support of the St. Louis Art Museum with dedicated classroom space.

3)Administration. This will be administered through the Pediatrics Clerkship office, in conjunction with Department of Fine Arts faculty.

4)Technology. Classroom space at the St. Louis Art Museum will ideally have PowerPoint capability and a projector to display images for discussion.

- Barriers. The chief barriers will be faculty time commitment (six sessions per year, on an every eight week cycle, with multiple fine arts and medical faculty required to run this), along with coordination with the St. Louis Art Museum and curators.
- Introduction of Curriculum. Piloting the program to a focus group of medical students could be considered prior to widespread inclusion.

VI. Evaluation and Feedback

- Evaluation Designs and Methods. A pretest-posttest model of evaluation will be used.

1)Pretest: Following the initial VTS session, students will be provided with a visual image and asked to record (write) their observations of the image.

2)Posttest: Following the final “Solidifying Applicability to Medicine” session, students will be provided with a second visual image, this one with a medical focus, and be asked to record (write) their observations of the image.

3) Pretest-Posttest Analysis: Number of observational comments will be compared from the pretest to the posttest. Results will be communicated to students (formative feedback).

4) Postassessment Tool: Following completion of the curriculum, students will complete a brief survey investigating the perceived utility of the experience and desire for further exposure to this method of learning.

5) Post-Posttest: Consideration could be given to having students complete a final evaluation prior to the end of the Pediatrics Clerkship (several weeks after the VTS training curriculum is completed), with a final visual image provided to students with the expectation that they record (write) their observations of the image. This would assess for preservation of learning.

- Measurement Methods

1) Pretest and Posttest (and possibly Post-Posttest) can be compared for analysis of learning through number of observational comments recorded.

2) Postassessment tool can be analyzed for programmatic evaluation based on students' affective assessment of the program.

- Data Collection Process. This will be coordinated through the Pediatrics Clerkship office. Students' performance assessment will not be incorporated into their global pediatrics grade for the rotation; however, student participation and attendance will be mandatory and failure to attend will be reflective in their comprehensive pediatrics grade.

VII. Curriculum Maintenance and Enhancement

- Curriculum maintenance will be overseen by the Pediatrics Clerkship faculty as well as Fine Arts faculty, and will incorporate student feedback (on postassessment tool) in ongoing iterations of the program.