Incorporating art in mathematical teaching and assessment as image-based learning.

The presenter will introduce the pedagogy that uses images, such as artwork as scaffolding materials, to facilitate students’ learning for the advanced math courses at college-level. The presenter integrated art in Calculus teaching and Calculus assessment in the pilot 2013 summer course at the Borough of Manhattan Community College. First was to guide student in learning Calculus concepts by identifying certain artwork that correlate with Calculus. Second was to use artwork as a tool to assess students’ application ability of Calculus skills in art diagram design. This pilot course was funded by the Rubin Museum of Art in New York City. Students were assigned to complete out-of class projects such as visiting art museums to discover math subjects through selected artwork, making presentations to interpret math concepts in terms of art-related contexts, and designing art diagrams by applying math skills. The advantage of using visual elements such as artwork in math teaching was to let student see that Calculus is everywhere even in art. The most impressive point was to improve students’ ability of cognitive understanding through the image of artwork and to enhance students’ ability of making use of math skills to generate artwork. (Received September 16, 2013)