

Title: Digital Color Literacy, Media Arts and Design Education

Speaker: Petronio Bendito



Abstract:

Integrating art, science, and technology in color design education paves the way for innovative tools and methods for creating color palettes for art and design applications and teaching. This invited paper introduces the author's methodology for teaching color design in the context of media arts education. Fundamental to the methodology is the science of color vision and how it informs the exploration of the most commonly used three-dimensional color systems of the digital age—RGB (Red, Green, and Blue), CMYK (Cyan, Magenta, Yellow, and Black), and HSB (Hue, Saturation, and Brightness). An examination of the potential and limitations of these color models are crucial to digital color literacy. Traditionally, color wheels are predictors of color mixing and are also used as a tool for creating color combinations. The author's RGB/CMY digital color wheel aims to provide a framework for promoting essential digital color literacy proficiency by 21st Century learners. Fundamentally, a digital color wheel needs to function as a visual aid to foster an understanding of the digital color spectrum based on Red, Green, and Blue color mixing. The RGB/CMY digital color wheel offers a broader color spectrum than traditional color wheels based on red, yellow, and blue color mixing, such as Johannes Itten's 12-step color circle, which does not include the color Magenta. In this presentation, the implications of using science-based RGB LED color blocks and microscopes in the classroom to introduce color at the pixel level are discussed. In this methodology, learning how to create colors using a digital color mixer and generating a digital color wheel from scratch are considered two of the essential skills of digital color literacy. Finally, the paper introduces a perceptual analysis of the HSB color model and how to use it to teach the fundamental concept of generating color palettes based on tonal relationships—another important 21st Century digital color literacy foundation.

Biography:

Petronio Bendito is a designer, artist, and professor. He teaches digital media design in the Visual Communication Design program at Purdue University in the Rueff School of Design, Art, and Performance (USA). His creative and scholarly works investigate digital color design methodologies and the intersection of art, design, science, and technology.