

Comparison of Practical Color Application by Visual Artists in Different Fields: A Sharing of Their Learning, Teaching, and Practical Experience of Color Theory*

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Based on the practical experience in painting for more than 30 years, the author has developed a new practical color theory based on the Munsell Color Space. The author published findings through comparing it with a more popular teaching framework based on the Itten Color Wheel at the 3rd International Conference on Creative Industry, Bali, Indonesia, on August 2015. As an extension of the pedagogical research in the teaching of color theory, the author has carried out a series of interviews with visual artists in different areas. Some of these visual artists currently involve in the art education as well. Therefore, the sharing of their experience in their learning, practice, and teaching of color theory will serve as good qualitative data for the development of a robust color theory training approach to benefit our current tertiary visual art students. The background of these visual artists covers art educators, architects, fine artists (painters), a comic artist/an illustrator, a visual communication artist, a product designer, and a film-maker while a few of them have profession in more than one areas stated above.

Keywords: Munsell, color, theory, art, education

Objectives

To investigate artists' learning, teaching, and practical experience of color theory, these artists were selected from different training backgrounds and with different visual art fields to share their views in the teaching and learning of color theory.

Methods

Each artist was interviewed to understand their personal learning and practical experience related to color theory and their approach to colors. Artists also shared their teaching experience of color theory. The interview results help us compare the contemporary training method in art institutions against one used in the industries. The investigation allows us to further align our current pedagogical approach with industrial demands if a gap does exist.

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Interview of Artists, Visual Art Professionals, and Art Educators

Interview of Mr. Khoo Cheang Jin

Mr. Khoo Cheang Jin (KCJ) is a Penang watercolor artist and a professional architect. He currently serves as the president of Penang Watercolor Society and an active organizer of Penang Urban Sketchers' activities. KCJ learnt his painting skills from the two renowned Penang artists, late Mr. Tan Choon Ghee, a watercolor artist who worked in representational style and Mr. Tan Chiang Kiong who is a fine artist that believes in experimentation. Therefore, KCJ received great amount of fundamental drawing skills from the former while, the later has inspired him to discover his personal direction.

With his strong drawing skills developed through his learning from Mr. Tan Choon Ghee and his architectural training, he organizes regular outdoor drawing and painting sessions in Georgetown, Penang to capture the architectural heritage of this United Nations Educational, Scientific, and Cultural Organization (UNESCO) heritage city. He has developed his personal opinion about color application through his outdoor painting experience. Below are his arguments and opinions about color application.

“Therefore, the image, its mood, either warm or cold, is influenced by what is in front of you. (At outdoor painting locations)”

“I believe many things are digested results. You cannot just follow all the observed colors. ... I work more like an Impressionist. I will not want to discuss scopes outside Impressionistic working manner. For example, I see painters using green colors to paint trees. The green color you observe may have some problem.

Too strong, too sudden. (Talking about greens) ... It will not stay in harmony with other subject matters easily. Therefore, you need to adjust it to go with other subjects. Imagine, you are working with a dominating color scheme and that green has to go with the main color scheme. Therefore, the green is adjusted towards the scheme. This is my personal experience.

If you are not a full fine artist, the choice will go according to your professional and living habits, or your life style. (Talking about decision in color choice)”

KCJ believes his decision in color application came from his professional orientation. He as an architect loves to painting architectural heritage in Georgetown and at other places. To certain extend, he tries to retain the local colors of the architectural elements to maintain the descriptive correctness of the painted images. However, he does make adjustment based on compositional needs as he mentioned above. Besides, he also believes that training of color theory will assist students' learning of practical color skills.

KCJ's experience with green color is consistent with the author's teaching experience. This is related to the asymmetry of color space. Green hue occupies the largest color space as seen in the Munsell Color Space as shown in Figure 1. Compared to Figure 2, the later—the Itten Color Wheel does not reflect the asymmetrical character of a true practical color space. Therefore, it may mislead beginners, making them think that all hues occupy the same amount of practical color space. This further misleads them to think that different hues can be chosen as alternative substitutes moving from one hue scheme to another. This leads to practical issues as reflected by KCJ's experience with green hue.

Interview of Mr. Chong Hon Fatt

Mr. Chong Hon Fatt (CHF) lives in Georgetown, Penang. He is a renowned and experienced oil painting artist who loves to work on location. His favorite subject matters are Penang street scenes and Penang plain air landscapes. He received some training during his high school period with art teachers. However, most of his painting experience over the last 50 years was from his outdoor painting exercises. This can be understood from

his argument about his plein air painting experience below.

When I was in the high school, I saw some images of Van Gogh's paintings. I was so impressed by his broad brushworks. Besides, I love his depiction of sunshine, so that inspired me to start painting in oil. ... I received strong influence from Van Gogh's paintings. Till now, I hardly work at home. Even large format paintings, I will still work on location. ... Until today, I still work on location.

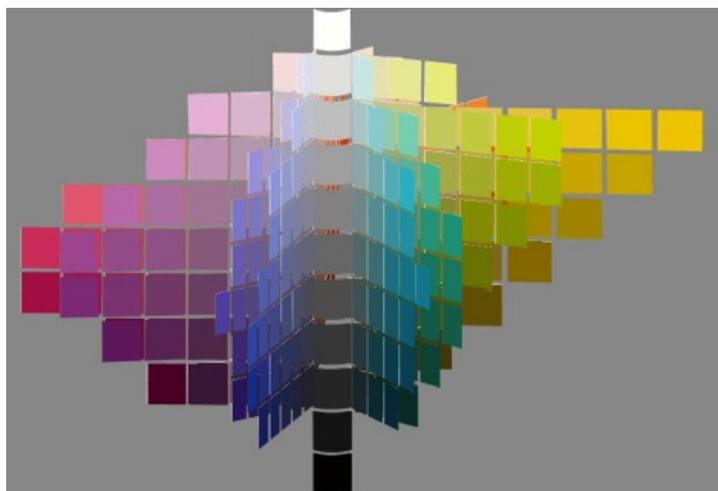


Figure 1. Munsell Color Space (Ng, 2015).



Figure 2. Itten Color Wheel (Westland et al., 2007, p. 7)

He chose to work on location based on his understanding of Impressionism, though Van Gogh was a post-impressionist with a strong personal expressive character. The broad brushwork and impressionistic sunshine are the two main factors he emphasizes a lot. To understand his perceptual painting concept and his choice of color, below are his responses.

Question: "How do you decide your colors? For example, when you paint blue or green, are you just following the observed colors?"

"I try to mix the color I see. Under the strong sunshine, the vibrancy of color is good. During a cloudy day, we cannot see that. With this strong lighting condition, the colors are rich and vibrant. Therefore, I focus on the observed lighting effects. ... I am very concerned about its color. I focus on its lighting condition. Yes. ... This shadow and that shadow have different colors. Normally, people think they are the same in color. ... I copy it and that is it (the color)."

Question: “Do you face problems with certain colors, or are there any colors that their problems are smaller?”

“No, I never met any problem. ... Because sometimes, oh! I do not have this color. I try to mix something closer to it. However, some colors cannot be mixed, because there is no such pigment. For that case, I will try to mix something closed to it.”

I tried to ask one more time to confirm why he did not like to paint under dimmer lighting condition, “What’s the reason that you don’t work under weaker sunlight?”

“Because it is very dark. (Pointing to one of his outdoor oil painting) Like this piece, if there was no sunlight, everything would fall into complete darkness. ... With light, there are more changes of colors.”

“Other than Van Gogh, I also like Monet.” He reassured his impressionistic influence.

Question: “Do you think theories, for example, color theory, are helpful to you?”

“I do not buy those art books. I am afraid I will be influenced.”

From CHF’s argument and his working process, we can refer to the Munsell Color Space in Figure 1 to explain his working concept. Figure 3 is similar to Figure 1 other than the top portion and bottom portion of the Munsell Color Space being highlighted.

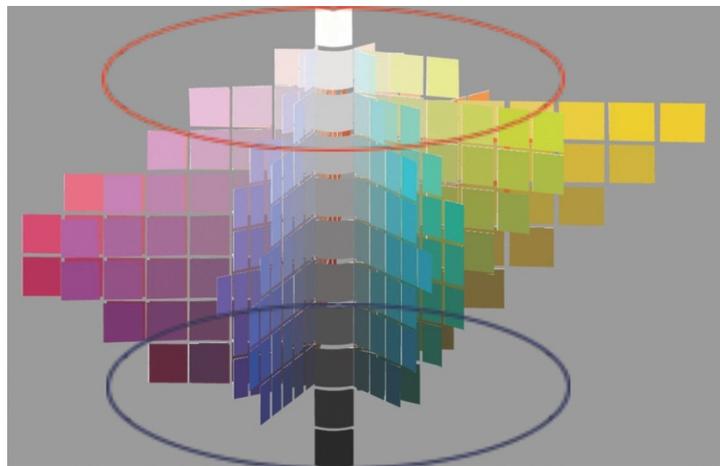


Figure 3. The Munsell Color Space with tinted and shaded color portions highlighted (Ng, 2015).

When CHF works on location during strong lighting condition outdoor, his observed colors are generally shown in the highlighted field (circled in red) as shown in Figure 3. These tinted hues are lighter than their parent saturated hues. One of the reasons why these wide ranges of hues could be applied with ease can be understood from Figure 3. Moving towards the top of this 3D model, the overall color space shrinks in size. Or, we can conclude that the colors will have smaller practical difference based on their distance in the space. This is similar to the basic concept why the Impressionists could apply wide range of hues with ease during their en plein air painting. CHF being an admirer of impressionists and post-impressionist has continued their tradition to work on location.

Looking towards the lower side of the 3D Model, a similar reason makes the darker hues (shaded hues, circled in black) more similar and closer to each other. However, CHF does not like to work under dim lighting condition, thinking that the subtle change is not too interesting. His personal choice is beyond the discussion here.

Although his disbelief of using color theory as a guideline, the Munsell Color Theory framework here still can simply explain his working approach. On the contrary, the two-dimensional Itten Color Wheel will not be able to provide this piece of message. Therefore, since color theory is useful, choosing the right framework to design the appropriate concept pedagogically is important.

Interview of Ms. Tia Boon Sim

Ms. Tia Boon Sim (TBS) started her very comprehensive traditional art training with a Singapore first generation master artist Mr. Liu Kang when she was ten years old. She believes that she has built her up with strong foundation in visual art. She received her master of fine art (MFA) in architecture at Pratt Institute, which she received part of her color theory knowledge. She gained knowledge of color interaction through her professional training in architecture related to environmental study of building designs. Her observation of beginners learning color was that most beginners could hardly observe the interaction of environmental colors. Most only realize the local colors of objects.

At Temasek Polytechnics, working as an art educator at tertiary level, she developed color theory training for tertiary students at diploma level using the Itten Color Wheel, which was taught to her during her MFA education at Pratt Institute. She also said that the Munsell Color System was mentioned briefly. The Munsell Color System was not introduced to her as a main color theory framework at all. TBS replied,

“It is still important to have certain foundation. The foundation in color is like grammar.”

She believes foundation in art is critical to art students. That includes the traditional drawing training she has received from Mr. Liu Kang as well as color theory knowledge.

“And mixing color is still a MUST for all.

It is called discovery. ... You never discover. ... You never internalize. ... So that they see the power of theory themselves.”

She believes practical approach of color mixing is one important step to introduce practical knowledge of color to students. She likes students to go through the journey of discovery in art training process. While the discovery process is needed, it is also a process for students to have deeper understanding of the taught theory. TBS has no objection against either a new color theory framework or a structural approach in training of color theory although she was using the Itten Color Wheel as her color theory framework.

Interview of Mr. Jeffrey Hong

Mr. Jeffrey Hong (JH) graduated from Singapore Polytechnics with a diploma in architecture. He continued his undergraduate education in Australia majoring in industrial design. He then received his Master degree in human factor design.

He mentioned that he had hardly any formal training in color theory. He believes his learning of practical color knowledge was from his personal experience. JH will ask students to google for color theory reference. The most common color wheels that will come up are generally based on the framework of the Itten Color Wheel. According to JH,

“Like trend colors that every year you can subscribe. ... Some of my graduated students tell me they have access to database or the companies (that provide different color trends).”

Colors were introduced to his students through fashionable trends. In product design, every season, there were different trendy colors. Therefore, these were colors that he would introduce to his students.

“You cannot have dark blue color labels for the buttons right against a black keyboard.”

JH also emphasized on the practicability of product designed, which the color choice had to follow practical needs. However, JH still believe a good structure for color theory training is beneficial to students,

though he argued that the structure should not be prescriptive. Therefore, based on his argument, a pedagogical design of color theory training must align practicability with theoretical concepts. Munsell Color System developed through true practical range of hues again shows this strength.

Interview of Mr. Don Low Chee Mun

Mr. Don Low Chee Mun (DL) started his learning of art from drawing illustrations and comics since his childhood years. Two important artists that had strong influence on his art were Mr. Ong Kim Seng and late Mr. Chang Chan How. DL learnt color concept by looking at Mr. Ong's paintings while he looked at Chan Chang How's sketches as his reference for his learning of drawing. For colors, Mr. Ong till today, uses a lot of earth colors (various browns), therefore DL picked up this concept of color application, and till today, he has strong preference of earth colors as seen in his exhibition catalog (Sabapathy, 1993, pp. 11-31).

DL was also influenced by a comic artist Mr. Guan Shan Mei who used tinted local colors to depict his comic subject matters. Basically, the objective was to illustrate the colors of each subject matter represented. The intensity of colors is reduced through tinting. Therefore, the colors were not emphasized. They only serve to indicate the colors of subject matters.

DL received his bachelor art degree in multimedia design locally and master of fine art in animation at Savannah College of Art. With his strong figurative drawing skill, he was employed as a part time faculty member to teach foundation drawing classes at School of Art, Design and Media at Nanyang Technological University (NTU) since 2010.

Based on his observations and experience, he believes that the animation movie industry has the strongest practical color theory knowledge. He observed the strongest color application in digital concept paintings used at pre-conceptual stage of animation movies. These digital paintings to him, were able to depict subject matters realistically. "Realistic" here means they are able to convince viewers about the space and subject matters portrayed. This includes believable textures, three dimensional forms, space and atmospheres depicted. Colors were used convincingly in these digital images.

DL confirmed that he used local colors for illustrative purpose so that viewers could see the colors of his painted subject matters. In his other approach, if not for illustrative purpose, he would use Mr. Ong Kim Seng's approach. He would use browns as his dominating colors.

During his teaching at various tertiary institutions (Singapore Polytechnics, Temasek Polytechnics, and Digipen), DL experienced that color theory framework which removed two of the three attributes of colors, namely, chroma and tone, keeping only hue for discussion. This is similar to the Itten Color Wheel that only sees one chroma of various pure hues. Browns and grays are taken out. In addition, the darkness or lightness of colors is of no concern. He believed that was due to the lack of material support as students could only be given limited number of pure pigments in school. He believed that students needed wider range of color pigments stretching through tonal, chromatic, and hue differences to allow students to gain the practical color knowledge. His argument that students need more practical inside of color application, coincidentally suggests that a color theory pedagogical framework that carries the true practical information like the Munsell Color System may have some advantage.

Interview of Associate Professor Cindy Wang I-Hsiun

Associate Professor Cindy Wang I-Hsiun (CW) has her early art education in Taiwan. She continued her art education abroad, MFA in visual communication at School of Visual Art (SVA) in New York during early

90s. CW's comment about her ability in color application,

"I kind of you know like sensitive to the use of color. And I am good."

CW's comments about students facing color issues,

"Maybe you should think about the color."

CW believed she was talented in the application of colors. She used her sensitivity in color application and personal experience to help her students. CW thought that there would be a gap between learning theory and being able to apply practically. She believed the process of how one could digest the theory learnt was through practicing in the field of application. Therefore, according to her, a color theory framework might help students in their learning. However, it still requires some time for students to digest the theory through real applications. She does not have any preference about any color theory training framework.

Interview of Professor Benjamin Alvin Shedd

Professor Benjamin Alvin Shedd (BAS) is a film professor at School of Art, Design, and Media (ADM) at NTU, who also won the Academy award in documentary film in 1978. He shared his experience about his teaching of color in film and adjustment of color scheme in film process. His learning and teaching of color has a mixture of the Itten Color System and the Munsell Color System as indicated by his school junior's publication (Block 2013, pp. 139-143). Therefore, our interview discussion touched on the asymmetry of color space in the Munsell Color System which is also the closest to the true practical range of each hue.

"So, I want to... I want say... I want to thank you for actually having this conversation with me. And for taking your book and showing me more details, and I have even understood. And the last hour I had learnt more about color from the way you have described, turning it into maps, taking it apart and re-configuring it. I want to say, "Thank you. Thank you. Thank you." So that you... I do not know if others have done this as well or done it differently, but your structure has suddenly let me understand the breath of color and things I have to deal with for decades. Em... That I will be able to deal with in the future. I would like to say, "Thank you. Thank you. Thank you."

"It... It... It is such a valuable inside. I do not study it a lot, so I do not know who else has done this. But this is the way, this idea of thinking about the browns, em... you have just said to me, "When you can see the brown, you can see the distances on the journey." It is such a wonderful way of looking at it."

Through the discussion, we talked about the relationship between different browns and grays related to their pure hue component, for example, yellow ochre is a duller version of yellow, dark brown is a duller version of purple (Ng, 2016, pp. 21-22). Another piece of information related to his experience about the difficulty in adjusting green colors for his films involved forest images. He experienced that the color adjustment of green had been more difficult in order to fulfill both yellowish green and blue greenish simultaneously in keeping their hue richness. Therefore, normally there would be quite a level of sacrifice in adjustment of green colors. This is actually again a proof of the practical strength of an asymmetrical Munsell Color Space because it has indicated that green covers a much wider color space ranging from yellowish green to pure green then to blueish green. Therefore, green color space has to be considered carefully in actual application. The weakness of the symmetrical Itten Color Wheel (Ng, 2015) is clearly reflected here without being able to differentiate the size of practical application range of different hues.

Summary of Findings

Six out of the seven artists interviewed believed that comprehensive training framework is a good tool to

assist students' learning of color theory. Only Mr. CHF is against the idea of using color theory to teach color application. However, as discussed above, his approach falls well within a comprehensive color theory framework, the Munsell Color Space.

Practical experience was repeatedly emphasized. KCJ sees it as compositional needs in painting, while TBS calls it discovery in her training of students learning color for design. CHF believes artists need to be painting on location to observe the subtlety of color changes and environmental factors that induce color changes. DL hopes students can have better support of painting materials, so that they can explore wider range of colors that covers all three attributes of colors. CW thinks students could only digest the taught knowledge after experiencing various practical issues. BAS acknowledges of the usefulness in the understanding of browns and the practical strength of the asymmetrical Munsell Color System. This has reassured us with confidence to introduce this important piece of information to the pedagogy of color theory training.

Recommendations

A comprehensive training framework needs to be developed. This framework must be able to cover the current deficiency in color theory. As observed from the interviews, the Itten Color Wheel reflects weaknesses in coverage of all practical aspects of color attributes which the Munsell Color Space is able complement. Therefore, it is more likely the comprehensive training framework needs to include the advantage of what the asymmetrical Munsell Color System has reflected. Practical problems related to different fields of practice need to be designed to fulfill students' needs to experience the true field issues related to color application. This should bridge the gap between theory and practice. It therefore eases students' learning of color theory.

References

- Block, B. (2013). *The visual story: Creating the visual structure of film, TV and digital media*. Burlington, MA: CRC Press.
- Ng, W. L. (2015, August). A new approach for the teaching of practical color theory. In the *ICCI 2015 International Conference on Creative Industry*. Denpasar, Indonesia.
- Ng, W. L., & Kia-Hwee, C. (2016). *Practical applications of color theory and design concepts* (1st ed., Vol. 1). Retrieved from <https://www.amazon.com/Practical-Applications-Theory-Design-Concepts/dp/9810963750>
- Sabapathy, T. (1993). *Recent works by Ong Kim Seng* (1st ed.). Singapore: Caine's Gallery.
- Westland, S., Laycock, K., Cheung, V., Henry, P., & Mahyar, F. (2007). Color harmony. *Colour Journal—Design and Creativity*, 1(1), 1-15.