

# CHAPTER 1

## INTRODUCTION

Color physicists are trying numerically to derive a visual scale from light to engineering with scientific viewpoint. On the other hand, color psychologists are investigating color perception with psychological viewpoint. The interface between physical and sensational parameters is very important. But there is a big gap between the two area. Because, the main target of color physicists is color itself, and that of color psychologists is the human brain.

There are compositions of color vision system of human, namely ray of light from original source hits surface of material and color is reflected to the sight of human. Color perception is occurred in the mind. Main factors of color perception of human compose of physical and psychological ones.

Physical factor can be used to measure ray of light that is reflected from material. The mathematical equation is applied and illustrated by color diagrams. The color value will be shown in term of numbers and orders of color. Dimension of color is called Hue, brightness and saturation, which is in the Munsell and other color systems. The physical factor can be measured in term of value and arranged in the standard systems.

Psychological factor has an impact on mental identification, which depends on experiences, attitude, memory, emotion knowledge, culture and education level. The

identification will respond on things, which they see. The exposure on language depends upon culture of that nation. Thus, language expressed is the perception measurement. 1-2)

The objective of the research is to establish the model of word for color perception of the Thai people in the Munsell Color System and to standardize their arrangement which deals with color quantitatively on CIE L\* C\* h diagram.

### **1.1 Objectives**

1. Transform Thai word for color perception into numerical expressions in order to establish scientific system of colors.
2. It is particular of standardize Thai words for color perception.

### **1.2 Scope of the research**

The dissertation covers the study on the effects of the visual assessment from the Thai word for color perception, by use 2 methods, the derivation of the visual assessment and colorimetric values to set the Thai guideline color model. It's on the Munsell color space, the colorimetric characteristic of the color perception on CIE L\* C\* h diagrams model, and relationship between 2 method of transforming color.

### 1.3 Content of the thesis

Chapter 2 deals. With the overview the theoretical consideration and literature review. Chapter 3 gives the description on materials under study and the experimental procedures and apparatuses. Chapter 4 certain The results and discussion on the visual assessment, colorimetric value to the color model on Munsell color space and the colorimetric characteristic of the color perception on CIE L\* C\* h. diagram and relationship between 2 method of experimental. Finally, the results are concluded in the Chapter 5 along with some possible suggestion.



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