CHAPTER 1

INTRODUCTION

There are a lot of colors in the world. The number of color combination is almost infinite. Usually, we see colors appeared together, rarely appear alone, such as colors of cloth, jewelry, furniture, poster, package etc. Color design is very important in attracting customer. Color is a phenomenon of sensation, not an objective component or characteristic of a substance. Color sensation involves three basic factors such as light source, object under illumination, human eyes and neutral responses of observers. Stimuli received by the eye do not have meaning until the brain interprets them. The eye first records information without understanding, the brain then interprets and compares it with previous experiences based on culture, knowledge and personal preference etc (*1*). Thus different people look at the same color may have different color sensation. Recently, the numerical expression of color sensation has been studied in many countries in order to make people who has different background able to understand color in the same way. Sato et al. studied the numerical expression of Japanese (*2*). Xin et al. studied numerical expression of British and Chinese (*3*). Ngampatipatpong D. et al. investigated assessment color sensation of Thai observers through numerical expression (*4*). However, the above researches regarded only single color. This applies limitation in color design of product.

At present, more interest goes beyond the investigation of color combination. Ou L.C. et al. studied influence of a holistic color interval on color harmony (*5*).

This research will define the Thai color preference and impression induced by sensation words for Thai observers . The objective is to quantitative of color sensation of two color combination. The model of relationship between single color sensation value and two color combination sensation value of Thai peoples will be established.

1.1 Objective

To assess quantitative of Thais color preference and impression induced by two color combination.

1.2 Scope of the Research

The dissertation covers the study on the effects of the visual assessment of two color combination from the fourteen opponent word pairs, by which the derivation of color combination equation is established, including generation of three dimensional color sensation space for two color combination.

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 contains the results and discussion on the visual assessment, the characteristic of the color combination sensation on color difference of CIEL*C*h diagram, the three dimensional color sensation space for two color combination, relationship of two single color sensation values with the color combination sensation value, "Disharmony-Harmony" equation, "Dislike-Like" equation and comparison between two opponent word pairs. Finally, the results are concluded in the Chapter 5 along with some possible suggestion.