The Study of Applying Information Technology into Detection of Color-Blind

E-mail: 9800896@ mail.dyu.edu.tw

ABSTRACT

Color-blind can be defined as a result of biological color perceiving deficit or color processing inability. People born color blinded have difficult distinguish color differences like others. Based on the data of Ophthalmology Dept, Taipei veterans General Hospital, 8% male and 1% female were born color blinded. Although many people are bothered by color-blind, such vision deficiency cannot be cured but be improved by wearing special tinted eyeglasses.

The study aims to explore the research progress of color-blind detecting. The adoption of multi-media and building up a vision abnormal detecting system are included in the research. Research objects are those who are tested for color-blind. Personal inspection is used as the basis of the detecting system. Ishihara pattern which is randomly shown to the objects is selected and taken to construct the color-blind detecting system. The system can provide a basic knowledge to assist school nurses and staff in Motor Vehicle Office understand more about identifying color-blind and furthermore, to assist detecting color vision deficit.

System analysis, of qualitative Analysis, as well as historical documentation are introduced in this research. Hence, a self designed and developed detecting system are added. By the scientific detecting method contained in the research, deviations caused by environmental factors among testers and testee can be limited. Randomly chosen test cards and various alternatives are provided to increase the accuracy of the detection. Ishihara pattern is easy to understand and thus lowered the mistakes that children might make during the test and eventually avoid incorrect inspection result. Most importantly, it allows self inspection and help one to know his/her own vision condition.

Keywords : Color-blind　Vision abnormal detecting system

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