

Abstract

Presently, architectural and interior designs are usually not planned for people with visual impairment. This is due to the lack of knowledge about the ability of visually impaired person. In fact, the majority of blind people are partially sighted. There are only a few who are totally blinded.

This research aims to design the detectable warnings in the building to provide convenience and safety for the blind. The study includes concepts, theories and literatures regarding the blind to design the experiment carried out in the specific building. Then the experimental results were analyzed for developing the design of detectable warning surfaces for the blind.

The experiment procedure were designed from the theory of perception and cognition of environmental clues, including colour, time and space, that help identifying visual constructs for the blind. The experiments were divided into three parts. 1) Floor plan vs. way-finding. 2) Warning surface texture vs. way-finding. 3) Color and size of signage vs. sight and navigation. The experimental results involve observations by the researcher, the interviews of 22 blind people, and the answers of questionnaires. The results and their opinions were evaluated and concluded.

The study shows that complexity of the floor plan, the warning surface texture, the color and size of signage and the sight have the effects on blind people's perception. Blind people can easily create mind-map if there are a few junctions and uncomplicated floor plan. The strip detectable warnings are more effective on way-finding than bump detectable warnings. The yellow and red signage with the size larger than 200 millimeters can help the sight of blind people.

This research provide a fundamental concept for properly design of the detectable warnings for the blind in buildings. The proposed detectable warnings and the designs should be considered these aspects in order to serve the needs of the visually impaired people.