

# 論 文 要 旨

## Thesis Abstract

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主論文題名 (Title)			
Perceptions of Colored Pictograms for Communication in Factory Emergencies			
内容の要旨 (Abstract)			
<p>The general usefulness of pictograms is to communicate promptly for the condition which people often do not share the same language. This study examined the effects of cultural and educational background factors on the comprehension of colored pictograms for emergency situations in manufacturing contexts by focusing actions in factories. In this study, colored pictograms in different colors for such manufacturing actions as “push”, “step”, and “turn” were designed. The colors of the pictograms were white, black, red, yellow, green, blue, and pink, which are commonly used for ISO, JIS and other signs for emergency situations. The pictograms were presented to 178 Thai and 80 Japanese university students in a questionnaire survey to identify their perceptions toward the importance of the seven differently colored pictograms. The statistical analysis of the survey showed a significant difference between the two groups for colors often used in ISO and JIS emergency signs, and suggested that the difference was due to a lack of safety training for Thai students. The same pictograms were also presented to factory workers with different cultural and educational backgrounds by using the same survey questionnaire. In the survey, 138 workers (40 Thai, 40 Burmese and 40 Cambodian subjects) responded to the questionnaire in which instructions were expressed in their native languages. The statistical analysis of survey results showed that a difference between groups with different educational levels was statistically significant for red, yellow and green pictograms. In particular, workers with lower educational levels tended to interpret red pictograms as signs for unimportant action to take, even though emergency measures are often shown by pictograms in red at a factory. The results from the factory workers suggest that workers should be explicitly instructed about the links between safety functions and pictogram colors in their job training to maintain safety at a factory. The results of both surveys indicate that the perception of colored pictograms for emergency situations can be affected more by training / education than by a cultural difference, which is often pointed out as an important factor of color perception.</p>			

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