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The Effects on Selective Attention Performance Contributed by Cognitive Styles and User Interface Designs

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Abstract

Interface design is becoming more important than ever as information products became the mainstream. Be it soft or hard information product, the quality of its interface design predetermines its market success or failure. Cognitive style, deciding in what pattern the information is to be processed within people's brains, is believed the key factor for directing interface design. On the other hand, selective attention, deciding which information can be noticed among competing ones, may as well play an important role on interface design. Therefore, it is of much value to explore the correlation among selective attention performance, cognitive styles and various interface designs.

The purpose of this study aims to find out what kind of interface design can contribute to better selective attention performance and, at the same time, how much of the effectiveness is caused by different cognitive styles. And hence, three types of display patterns (Horizontal row, Vertical column and Centralized block) and three types of display locations (Left & Right, Top & Bottom and Left & Top), both on CRT display, were used to explore how the different interface designs affect users' selective attention performance. Then, nine cognitive styles, suggested by Riding (1991), were also used to further analyze their effects on users' attention performance.

The results discovered: (1) both the patterns and locations of displays did affect the performance of selective attention; and (2) only Verbal-Imagery dimension had effect on selective attention performance with "Left & Right" display location while Wholist-Analytic dimension did not.

Keywords

Cognitive Style, Selective Attention, User Interface Design

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Structure of Product Line-up and Concept of Design

In the case of refrigerators

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Abstract

To learn how design is developed in structuring a product line-up is an important challenge in developing various products and their study. This paper addresses refrigerators, a mature product because of its high diffusion, as one example, marketed by four major manufacturers during the past 20 years, and their product line-up structure and the design concept.

The refrigerator line-up structures could largely be classified according to the functions of compartments and differences in layout and they could be considered as "Multi-hierarchy type" comprising plural types with several different capacities.

Looking at the door handle, a major outside part, its design could be considered as "product-type dependent". More detailed study of the design of respective types revealed two concepts: "unified type" where the same design is developed and "distribution type" where a plurality of different designs are developed. It is believed that differences in these concepts are due to variations of the types, different features in time-series, different merchandising strategies of the makers, etc.

This paper delineates the product line-up of refrigerators and the concept of design.

Keywords

Product Line-up, Design, Refrigerator