Abstract from Donald Day's doctoral dissertation


This study sought to improve our understanding of user attitudes, perceptions, satisfaction and behavior in reference to constraints within computerized design tools. It also attempted to examine the differences in perspective between tool builders and tool users regarding appropriate design practices, as communicated via design tools.

The study created a typology of constraints and set of strategies users employ in the negotiation of constraints encountered in the use of computer-aided systems engineering (CASE) tools. Also addressed were (a) the cognitive fit between tool users and tool builders in terms of appropriate and necessary constraints, and (b) issues of creativity in the design of computer software.

Analysis followed a 2 x 2 factorial design that evaluated the impact of normative attitudes and perceptions regarding control upon user satisfaction and behavior. Most respondents reported not feeling especially encumbered with constraints in their tools, although most also reserved the right to override or work around constraints, depending upon circumstances. Responses validated the proposed typology of constraints and set of user negotiation strategies.

Findings indicated strong and significant relationships between attitudes toward control and perceptions of control on one hand, and satisfaction and behavior, on the other. (Satisfaction and conforming behavior both are inversely related to perceptions of control; attitudes toward control are directly related to conforming behavior.) No significant differences were observed between tool users and tool builders in terms of any key constructs examined in the study.