ACTION VS. STATE ORIENTATION: AN EMPIRICAL VALIDATION IN MAN-COMPUTER INTERACTION

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All users (6 beginners, 6 experts) in an experiment (Rauterberg, 1992) filled out the personality questionnaire of Kuhl (1981) to measure the dimension of "action versus state orientation." Each user was instructed to operate a relational data base program running on a PC.

The independent variables are: Level of expertise (beginners, experts) and task complexity (4 different operating tasks). All user actions (key presses) were protocolled with time stamps in a logfile. The dependent variables are: task solving time, number of used dialog states per task.

With a special analyzing program (Rauterberg, 1993) we can extract all task dependent dialog states from logfiles. The total task solving time divided by the number of different dialog states per task is the mean duration per state of the whole task. This duration can be interpreted as thinking time to plan the next action.

We averaged all durations over the four tasks and correlated this mean with all scale scores of the "action versus state orientation" questionnaire. We found a negative correlation between the average duration per dialog state and scale 1 ("success leads to action orientation in thinking"). This correlation ($R = -.75$; p .005; $N=12$) means, that users with high scores in action orientation in thinking caused by success have a short duration per dialogue state, and vice versa. Experts are more action oriented than beginners ("scale 1 score": $dF=1$, $F=11.40$, $p=.007$).

Conclusion: State oriented persons need a greater duration per dialog state, than action oriented persons. The dimension "action versus state orientation" correlates probably with learning.

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