

**Table 1:** Different usability measurement criteria grouped according to the four usability attributes: relevance, efficiency, learnability and attitude.

(Compiled from [162][123][104])

Relevance	Efficiency	Learnability	Attitude
<ul style="list-style-type: none"> <li>• number of good and bad features recalled by users</li> <li>• number of available commands not invoked by users</li> <li>• number of available commands invoked by users</li> <li>• number of times user needs to work around a problem</li> <li>• percent of task completed</li> </ul>	<ul style="list-style-type: none"> <li>• time to complete a task</li> <li>• percent of task completed</li> <li>• percent of task completed per unit time (speed metric)</li> <li>• time spent in errors</li> <li>• number of commands used</li> <li>• frequency of help and documentation use</li> <li>• time spent using help or documentation</li> <li>• number of repetitions of failed commands</li> <li>• number of runs of successes and of failures</li> <li>• number of times interface misleads user</li> <li>• number of times user needs to work around a problem</li> <li>• number of times the help facilities solve the user's problem</li> </ul>	<ul style="list-style-type: none"> <li>• ratio of successes to failures (over time)</li> <li>• time spent in errors</li> <li>• percent or number of errors</li> <li>• number of commands used</li> <li>• frequency of help and documentation use</li> <li>• time spent using help or documentation</li> <li>• number of repetitions of failed commands</li> <li>• number of runs of successes and of failures</li> <li>• number of available commands not invoked by users</li> <li>• number of features or commands that can be remembered after a test</li> <li>• number of logical errors made</li> </ul>	<ul style="list-style-type: none"> <li>• percent of favorable/unfavorable user comments</li> <li>• number of good and bad features recalled by users</li> <li>• number of users preferring the system</li> <li>• number of times user loses control of the system</li> <li>• number of times the user is disrupted from a work task</li> <li>• number of times user expresses frustration or satisfaction</li> </ul>

From Carlshamre (2001)  
A Usability Perspective  
on Requirements Engineering  
Doctoral dissertation, Linköping  
University, Sweden.