Learning and retaining procedural task competence

The present experiment investigates the contribution of conceptual and operational knowledge to the acquisition and retention of competence in procedural tasks. Three types of instruction were used to teach students to operate a fictitious device. One group learned only the list of task actions. A second group received operational information on the system's architecture and task organization. The third group received conceptual information on system processes enabling them to understand the logic of the task. Results showed that acquiring task competence is facilitated by operational knowledge, but maintaining proficiency over periods of no practice is supported by conceptual knowledge.