Human Problem Solving & Skill Acquisition

Theory of Problem Solving


Theory of Skill Acquisition


Learning from Examples & Problems


Transfer


Expertise


Intelligent Tutoring System

ISP Comprehensive Exam / Noboru Matsuda / Committee: Kevin D. Ashley

Design Principles


### Effectiveness of Human Tutoring


**Bloom, B. S.** (1984). The 2 Sigma Problem: The Search for Methods of Group Instruction as Effective as One-to-One Tutoring. Educational Researcher, 13(6), 4-16.


### Effective Machine Tutors


### Feedback


Reification


Self-explanation


Intelligent Interface

ISP Comprehensive exam / Noboru Matsuda / Committee: Peter Brusilovsky

General Principles


Adaptive Systems


Navigation / Information Filtering / Information Retrieval


Collaboration and Sharing


Communicative Agents / Natural Language Interfaces


Model-based Interface


Interface that Learns


Visualization


Multimodal Interface


[Items added after receiving questions 3/4/2003]

Adaptive Systems


Intelligent Help
